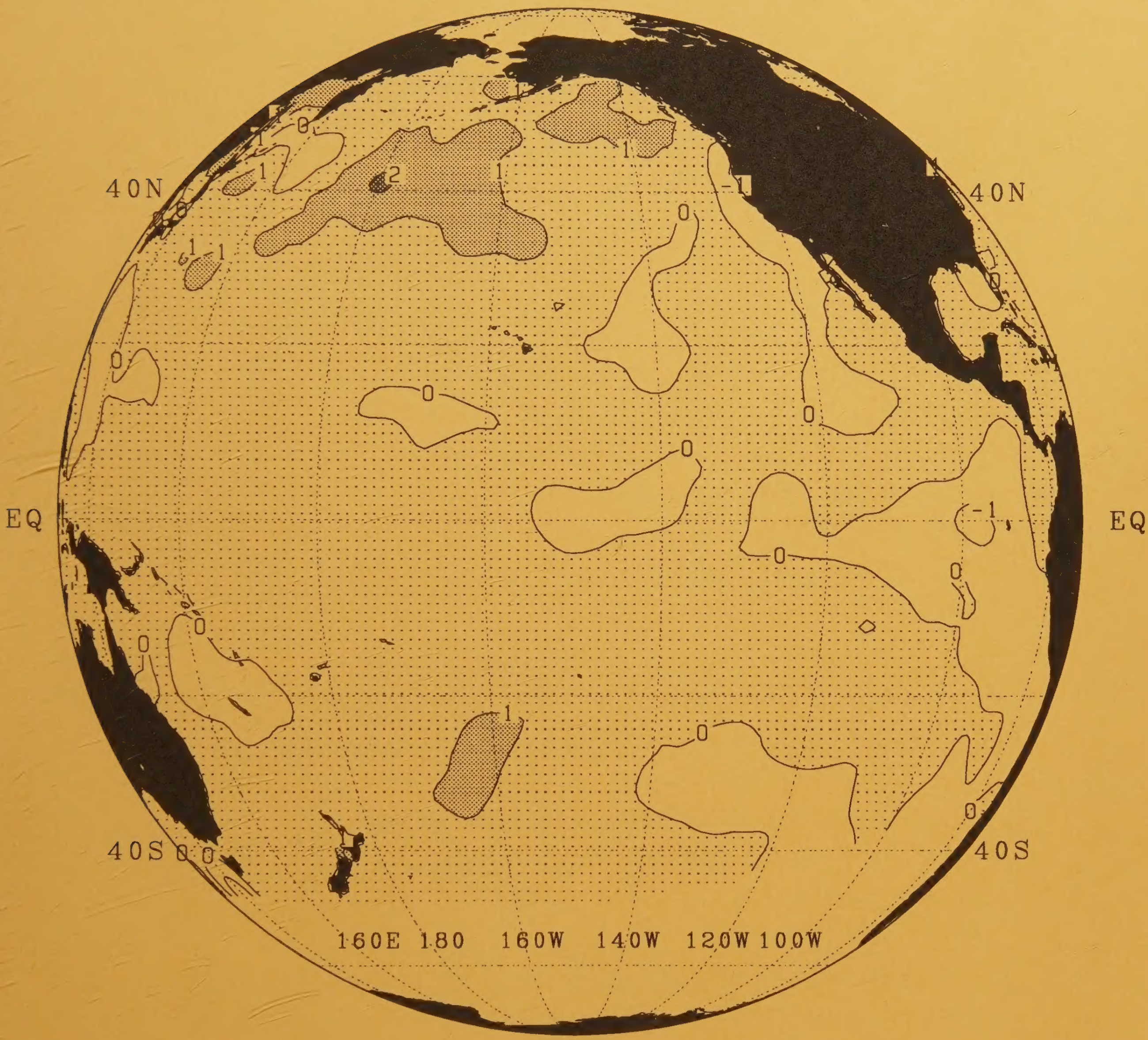
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気象庁海洋月報

Monthly Ocean Report

September 2005 (No. 153)



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Japan Meteorological Agency

気象庁 地球環境・海洋部

平成17年9月

気象庁海洋月報は、気象庁 地球環境・海洋部 海洋気象情報室で作成しています。
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表紙は、2005年9月の太平洋の月平均海面水温偏差図です。
陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for September 2005 in the Pacific Ocean.
Areas of positive anomalies are shaded.

目　次

*　MGDSST (Merged satellite and *in-situ* data Global Daily SST)を使用している。
**　従来と同様の、現場観測による海面水温をもとにした解析値を使用している。

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* Based on MGDSST (Merged satellite and *in-situ* data Global Daily SST).

** Based on the traditional analysis using *in-situ* SSTs.

海況の特徴（２００５年９月）

日本近海の海況

海面水温は、北海道周辺の海域と三陸沖で平年より１℃以上高かった。一方、45° N、165° E付近の海域では-1℃を超える負偏差が見られた。また、沖縄の南の海域では平年より低かった（第４図）。

黒潮は、紀伊半島に接岸した後、東海沖を東へ流れ、上旬は八丈島の南を、中旬及び下旬は八丈島付近を通過していた。その後、141.5° E付近を北上し、房総半島沖を北東に流れていた（第９図）。

太平洋の海況

太平洋赤道域の海面水温は、110° Wから90° W にかけて-0.5℃を超える負偏差が見られた。一方、160° Eから175° Eにかけて+0.5℃を超える正偏差が見られた。

北太平洋の海面水温は、ほぼ全域で平年より高く、アラスカ湾と 40° Nの日付変更線付近を中心に+1℃を超える正偏差が見られた（第１７図）。

Highlights September 2005

Seas adjacent to Japan

SSTs were more than 1℃ above normal in the seas around Hokkaido and off Sanriku. Negative SST anomalies exceeding -1℃ were found in the seas around 45°N, 165°E. SSTs were below normal south of Okinawa (Fig. 4).

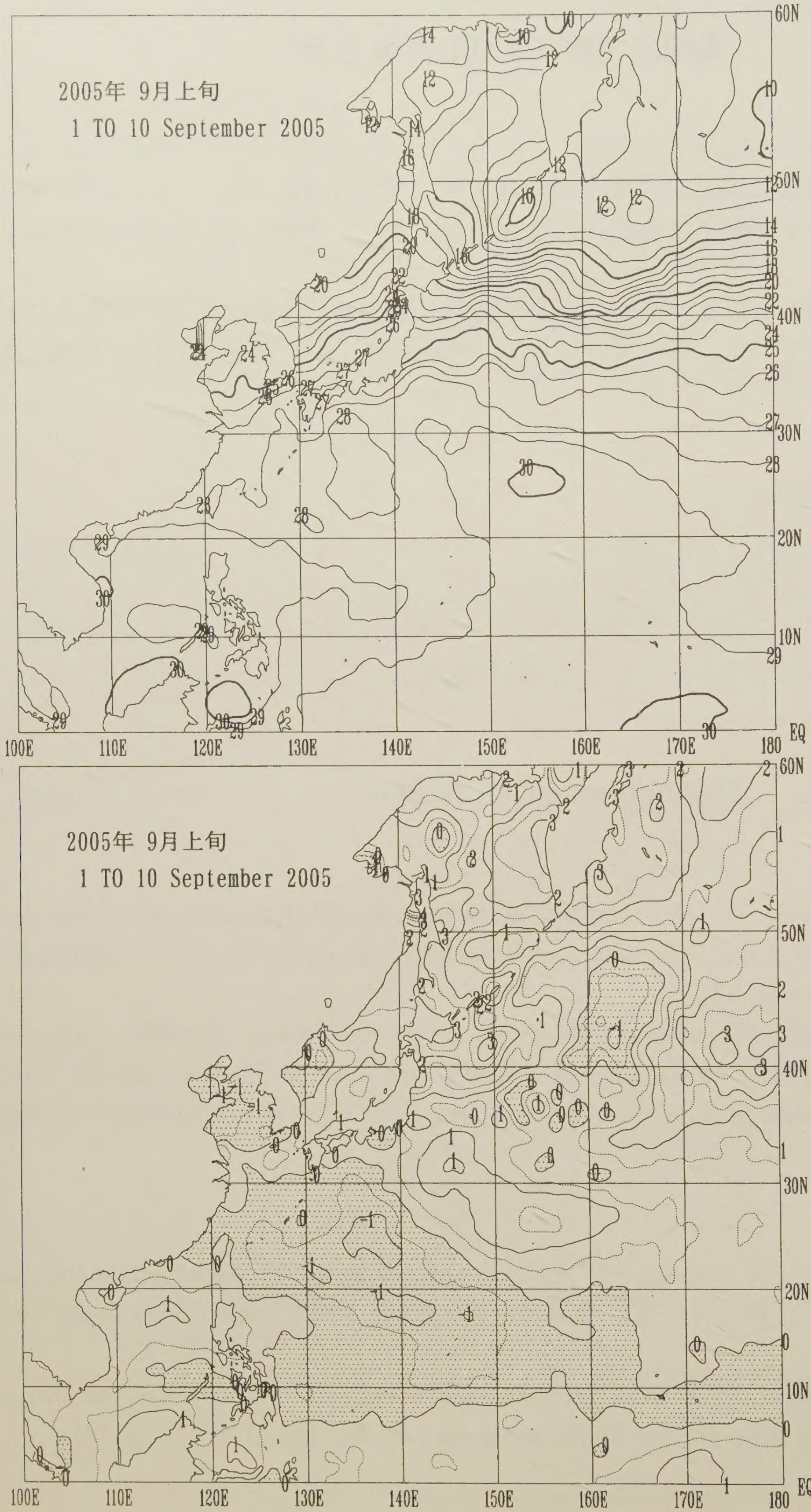
The Kuroshio flowed close to the Kii Peninsula and flowed eastward off Tokai. It passed south of Hachijo Island in early September, and it flowed near Hachijo Island in the rest of the month. After flowing northward along about 141.5°E , it flowed NE-ward off the Boso Peninsula throughout the month (Fig. 9).

Pacific Ocean

In the equatorial Pacific, negative SST anomalies exceeding -0.5℃ were found in the seas between 110°W and 90°W. Positive SST anomalies exceeding +0.5℃ were found in the seas between 160°E and 175°E.

In the North Pacific, SSTs were generally above normal. Positive SST anomalies exceeding +1℃ were found in the Gulf of Alaska and around the date line of 40°N (Fig. 17).

Ten-day mean SST & Anomalies



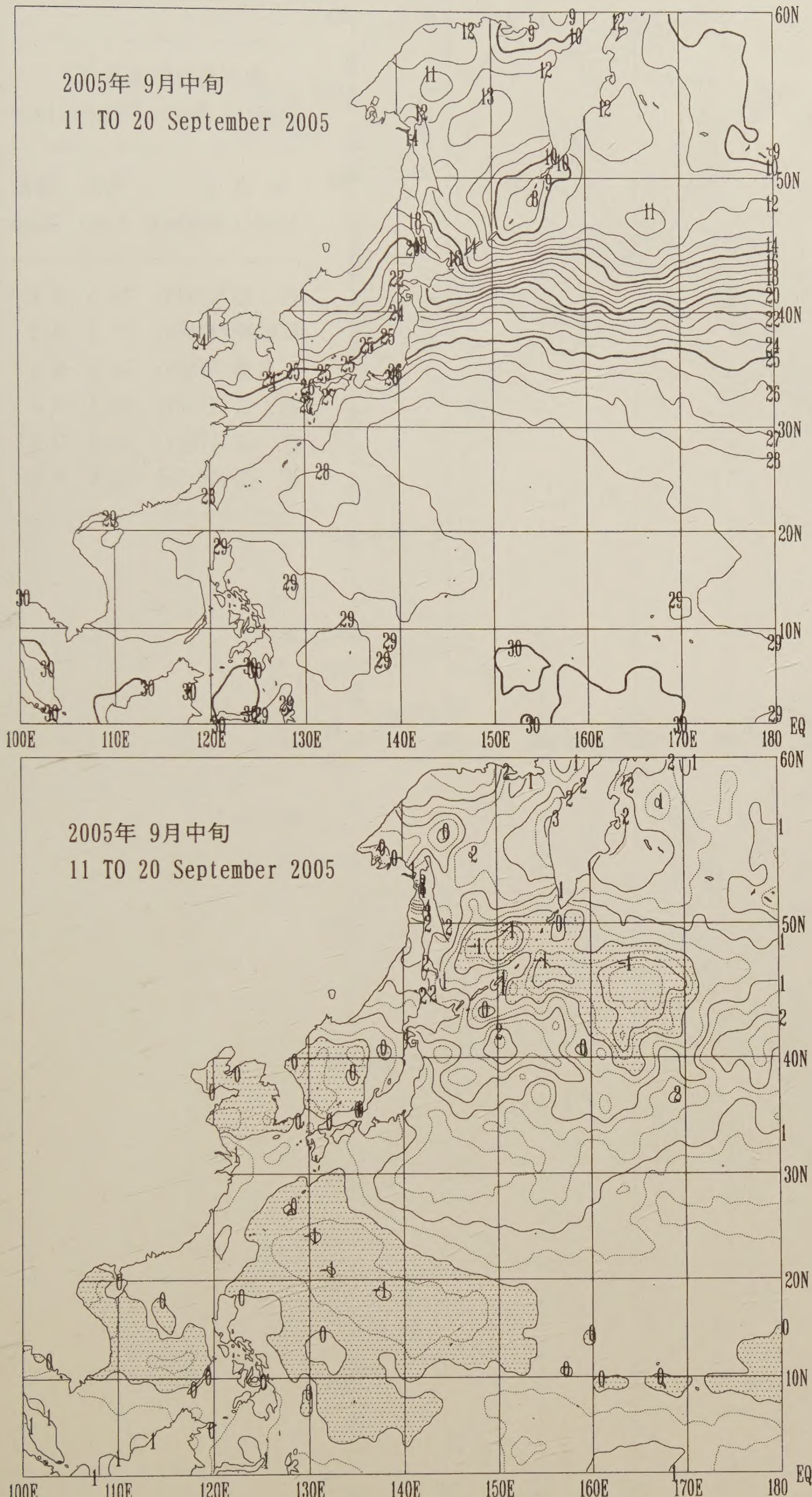
旬平均沿岸水温(℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	27.0	-1.8
御前崎(47655)	25.4	-0.2
小名浜(47598)	22.4	0.2
宮　古(47585)	21.5	1.2
江　差(47428)	24.4	1.1
浜　田(47755)	26.0	-0.6

第1図　北西太平洋旬平均海面水温図(上)及び偏差図(下)(2005年 9月上旬)

Fig. 1 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 1st ten-day period in September 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.

Ten-day mean SST & Anomalies



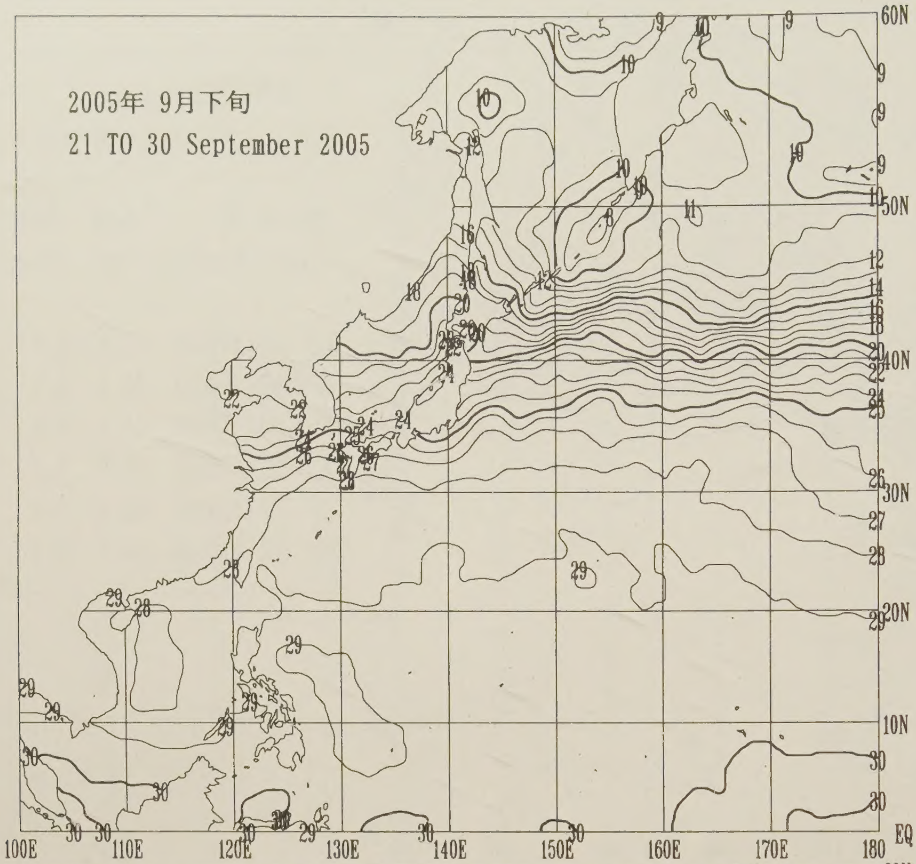
旬平均沿岸水温(℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	27.8	-0.7
御前崎(47655)	24.5	-0.2
小名浜(47598)	21.9	-0.1
宮　古(47585)	21.0	0.8
江　差(47428)	22.9	0.5
浜　田(47755)	24.5	-0.8

第2図 北西太平洋旬平均海面水温図(上)及び偏差図(下) (2005年 9月中旬)

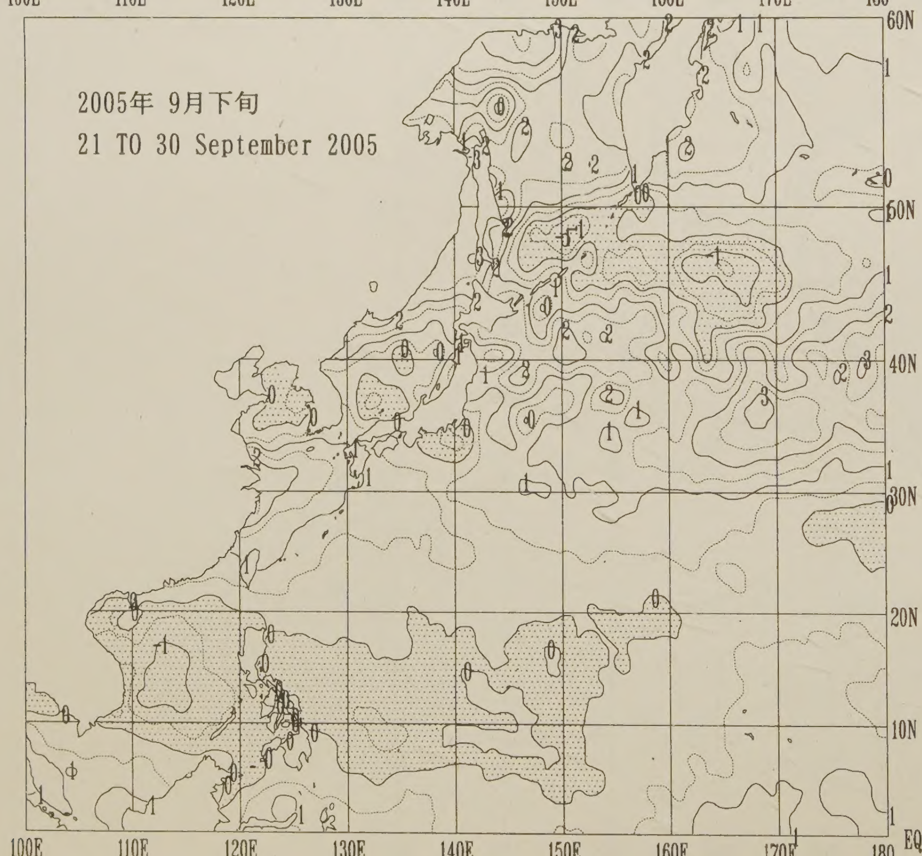
Fig.2 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 2nd ten-day period in September 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.

Ten-day mean SST & Anomalies



旬平均沿岸水温(℃)
Coastal Water Temperature

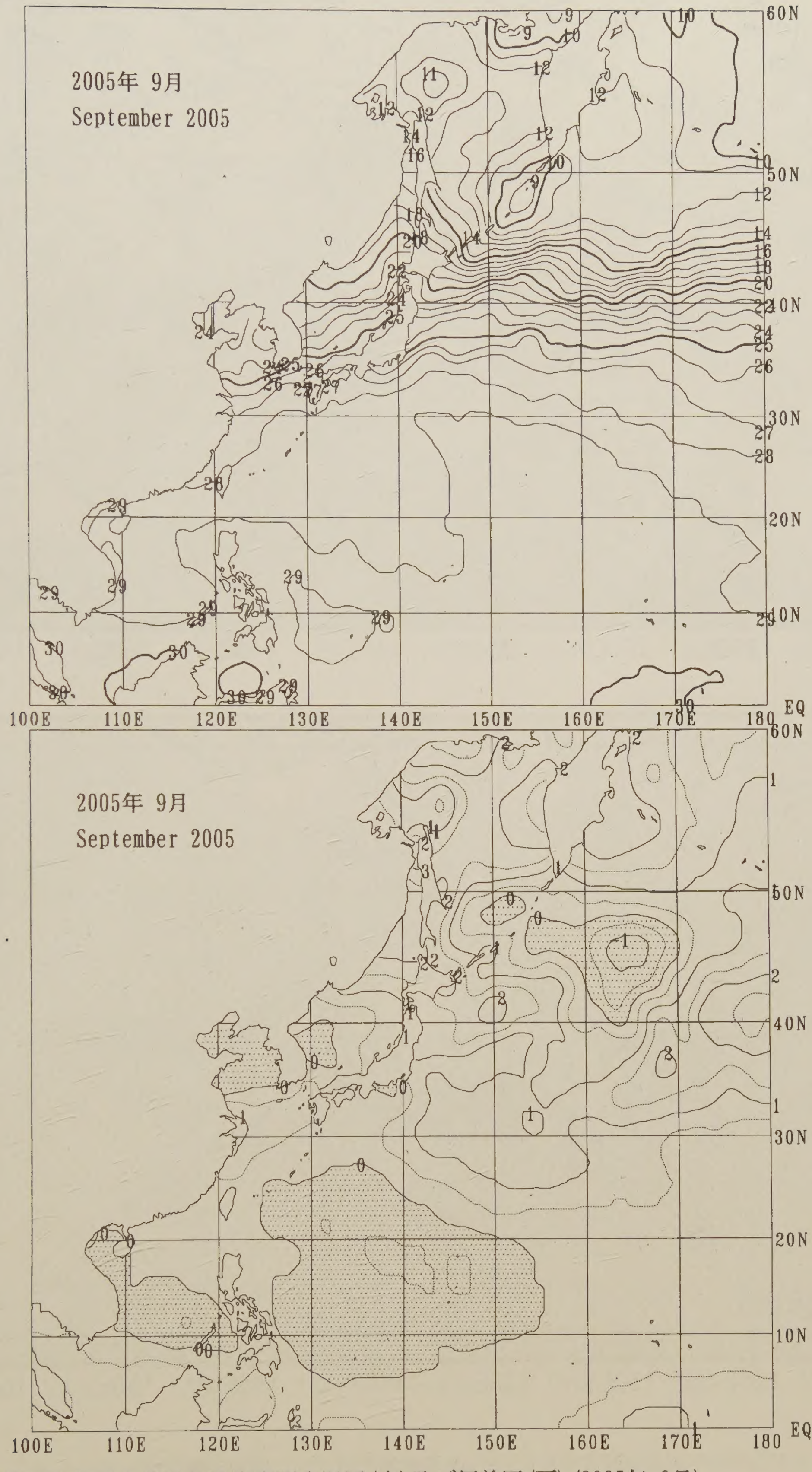
地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	28.5	0.7
御前崎(47655)	23.8	0.2
小名浜(47598)	21.0	-0.4
宮　古(47585)	20.3	0.6
江　差(47428)	21.6	0.8
浜　田(47755)	24.6	0.6



第3図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(2005年 9月下旬)

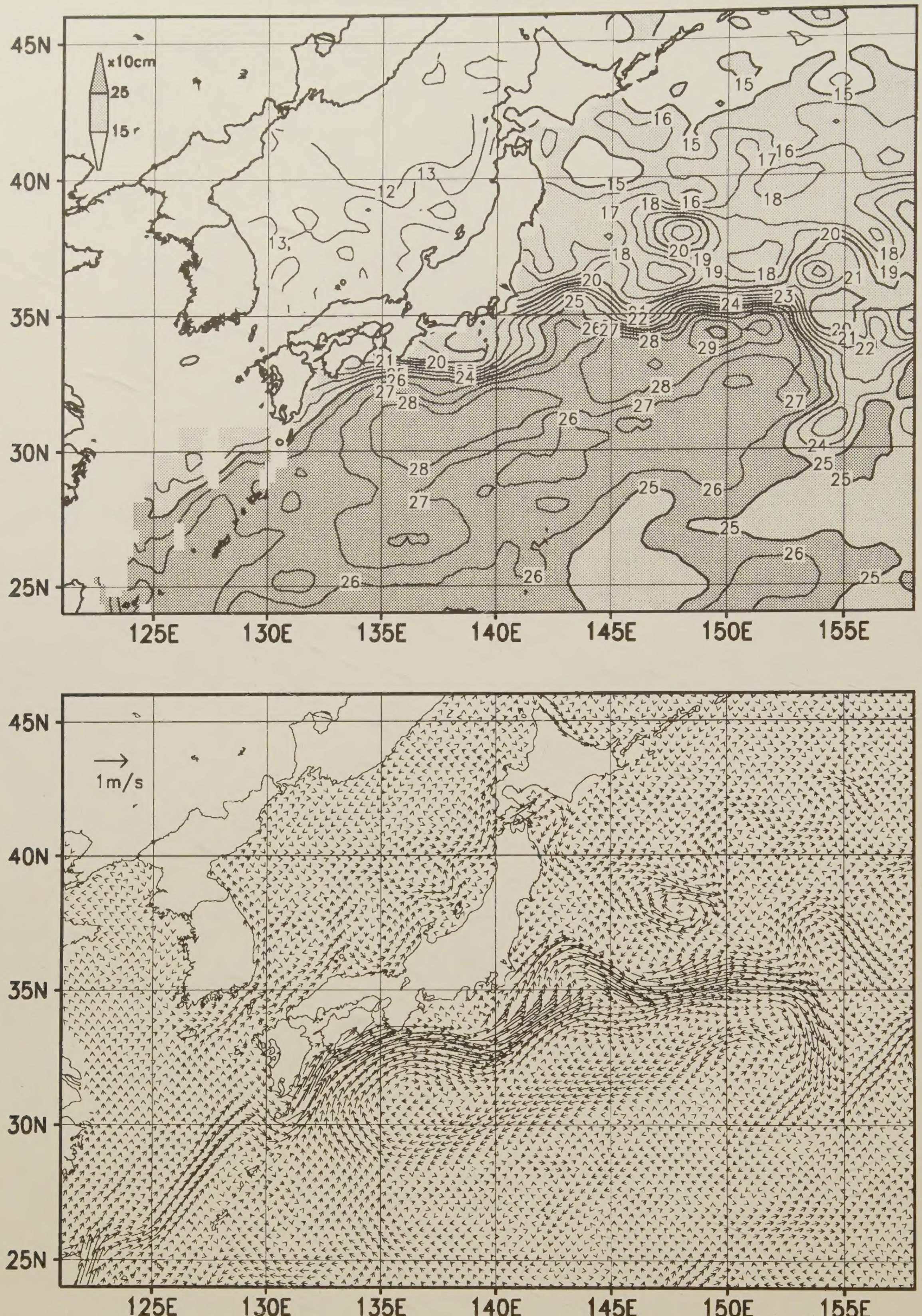
Fig. 3 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 3rd ten-day period in September 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.

Monthly Mean SST & Anomalies



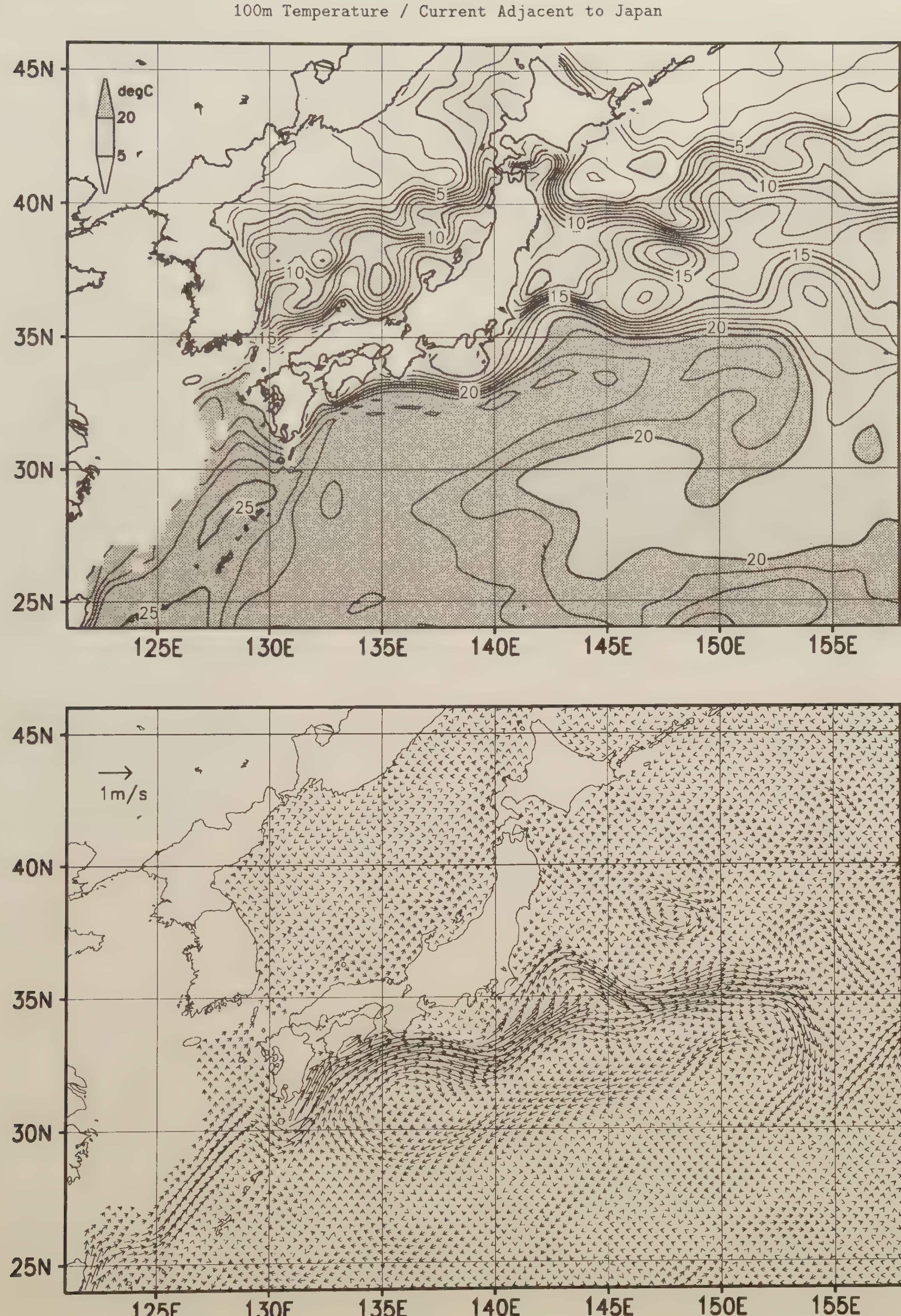
第4図 北西太平洋月平均海面水温図(上)及び偏差図(下) (2005年 9月)

Fig. 4 Monthly mean SST (top) and anomalies (bottom) in the western North Pacific for September 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are stippled.



第 5 図　日本近海月平均海面高度分布図 (上) と海面海流図 (下) (2005 年 9 月)
（海洋総合解析システムによる）

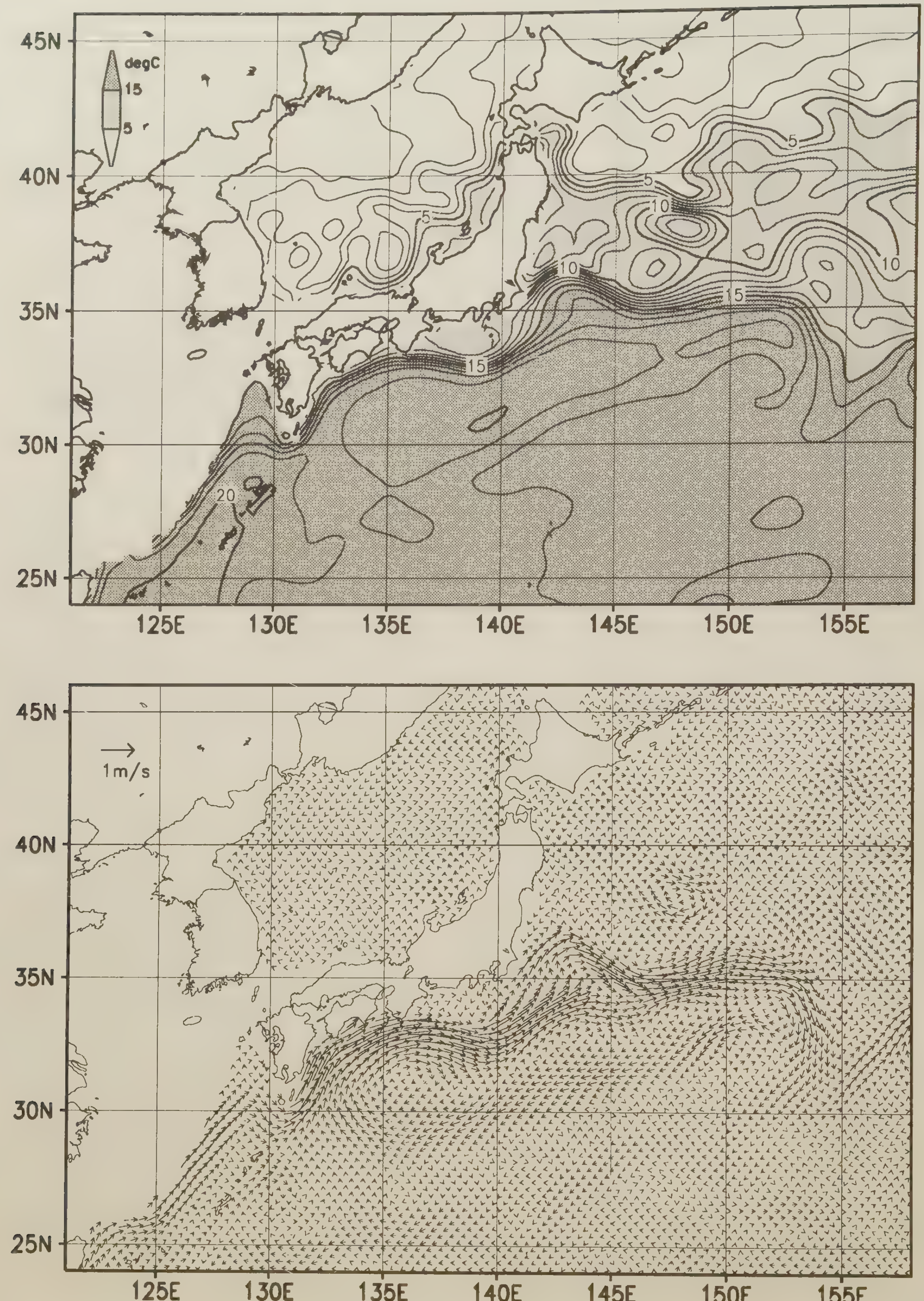
Fig. 5　Monthly mean sea surface height (top) and current (bottom) in seas adjacent to Japan for September 2005. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



第 6 図　日本近海月平均表層水温図（上）と表層海流図（下）　（深さ 100 m）　(2005 年 9 月)
（海洋総合解析システムによる）

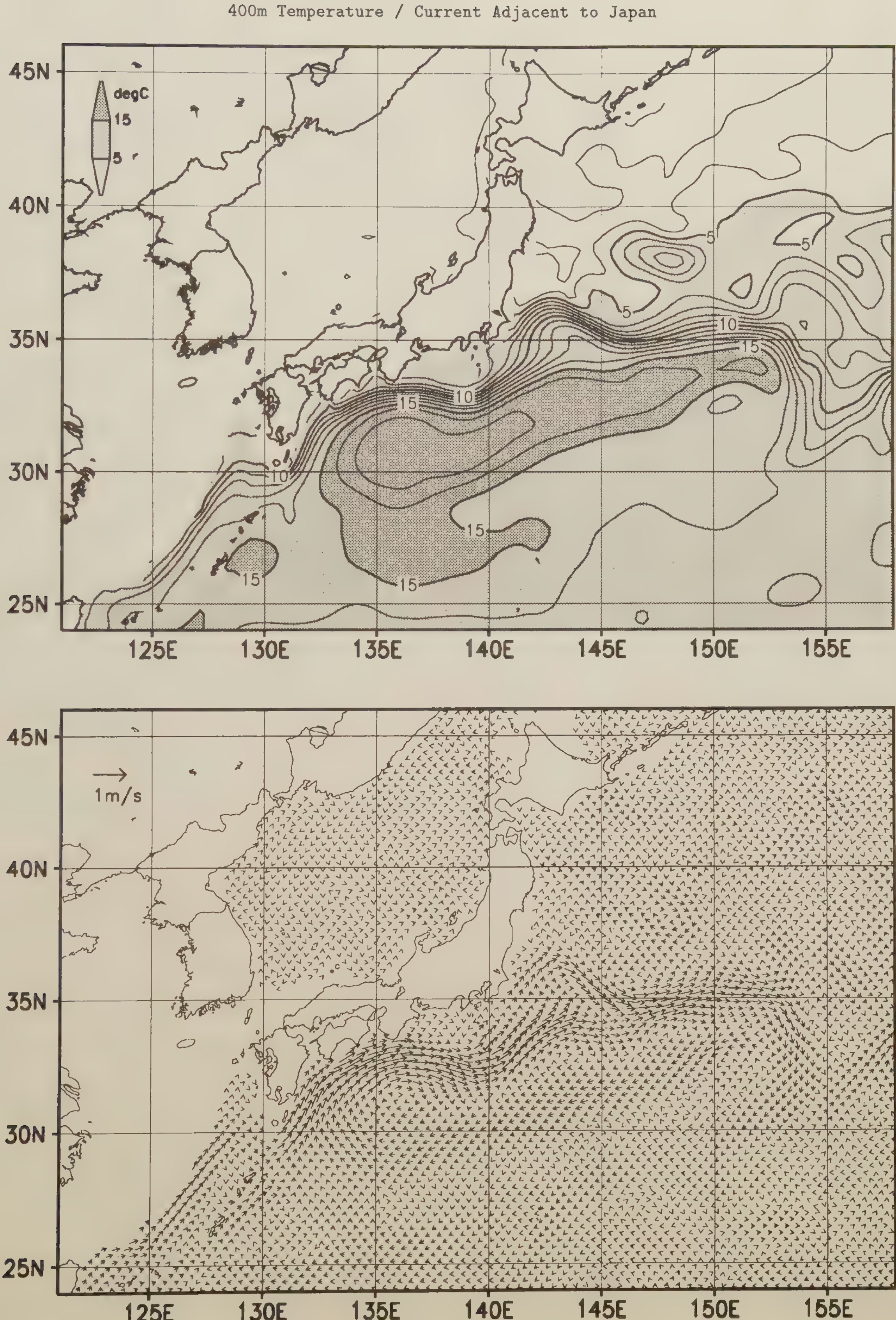
Fig. 6　Monthly mean subsurface (100 m) temperature (top) and current (bottom) in seas adjacent to Japan for September 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)

200m Temperature / Current Adjacent to Japan



第７図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 200 m）（2005 年 9 月）
（海洋総合解析システムによる）

Fig. 7　Monthly mean subsurface (200 m) temperature (top) and current (bottom) in seas adjacent to Japan for September 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



第 8 図　日本近海月平均表層水温図（上）と表層海流図（下）　（深さ 400 m）（2005 年 9 月）
（海洋総合解析システムによる）

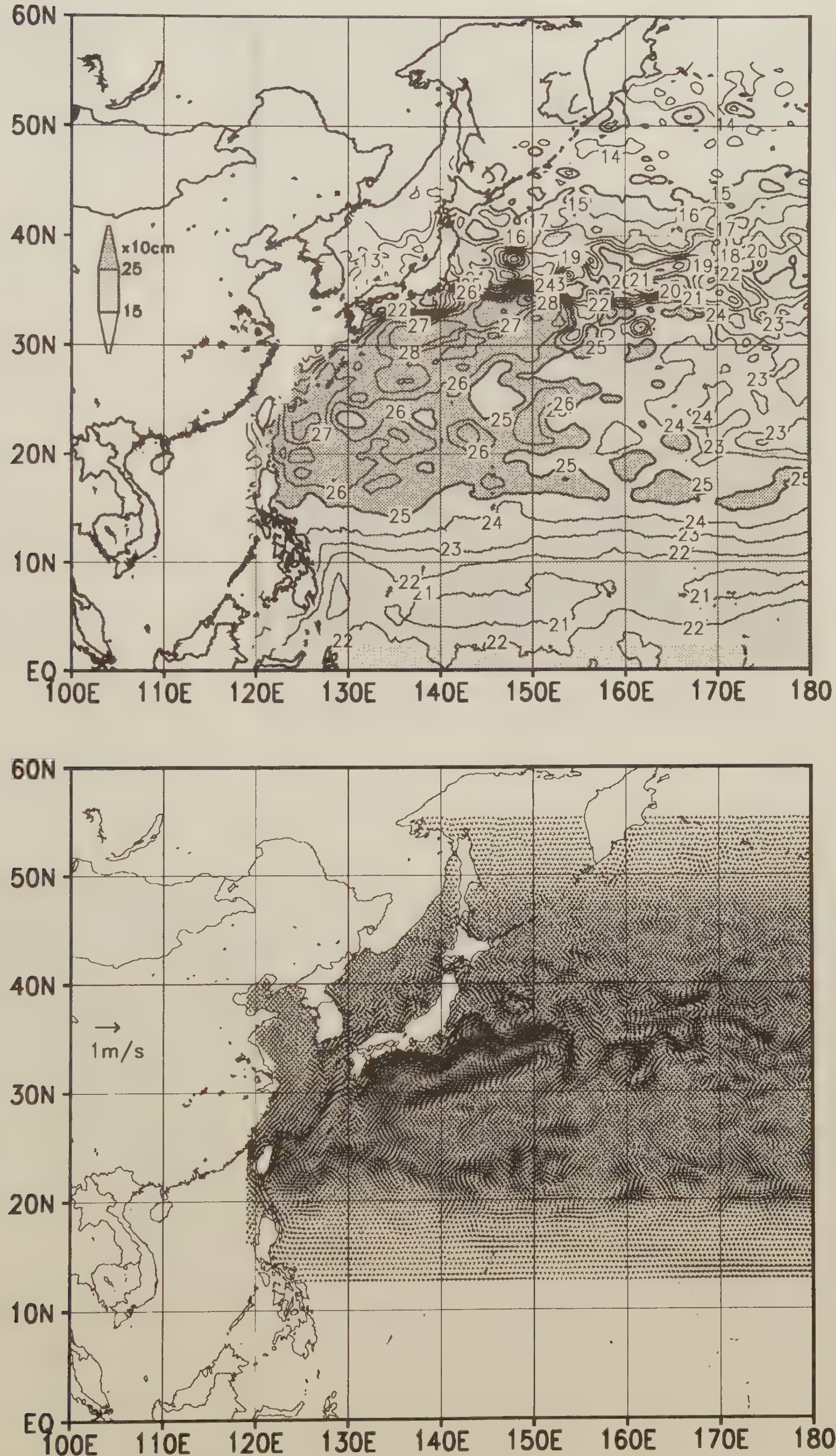
Fig. 8　Monthly mean subsurface (400 m) temperature (top) and current (bottom) in seas adjacent to Japan for September 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)

Location of the Kuroshio axis



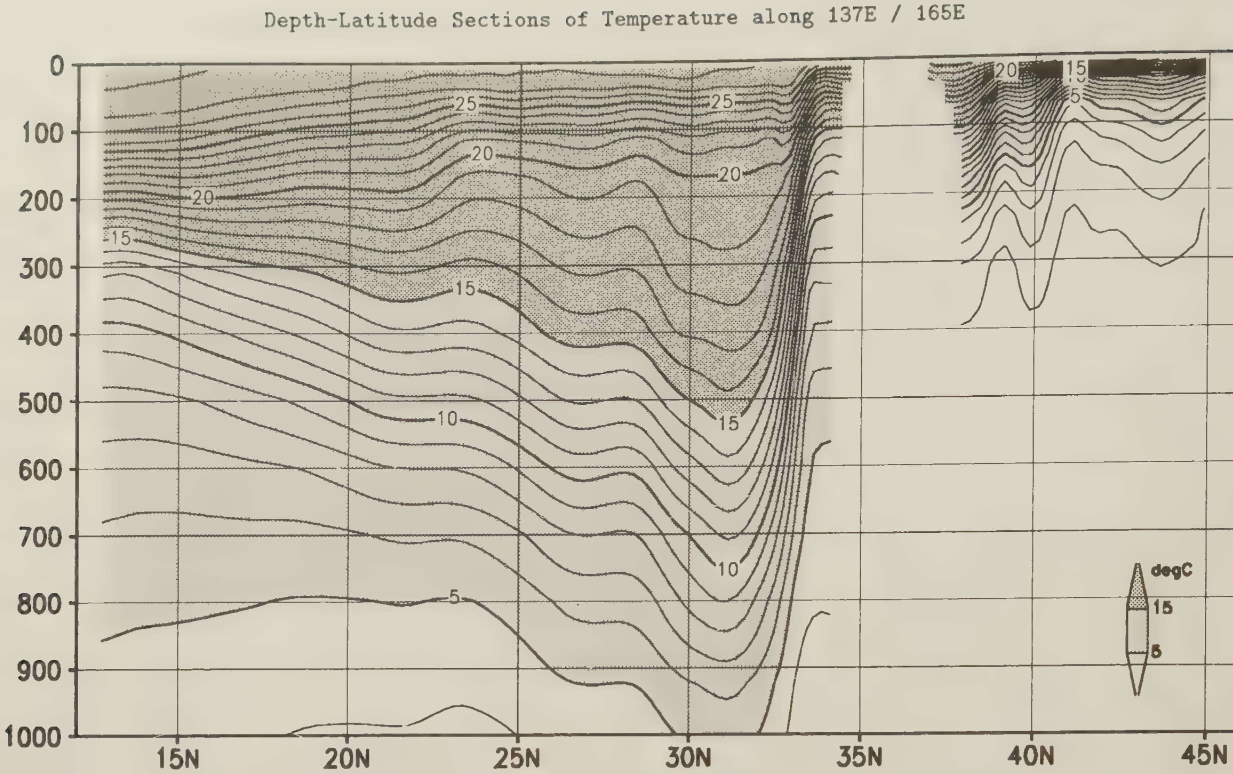
第9図 旬別黒潮流軸図

Fig. 9 Location of the Kuroshio axis



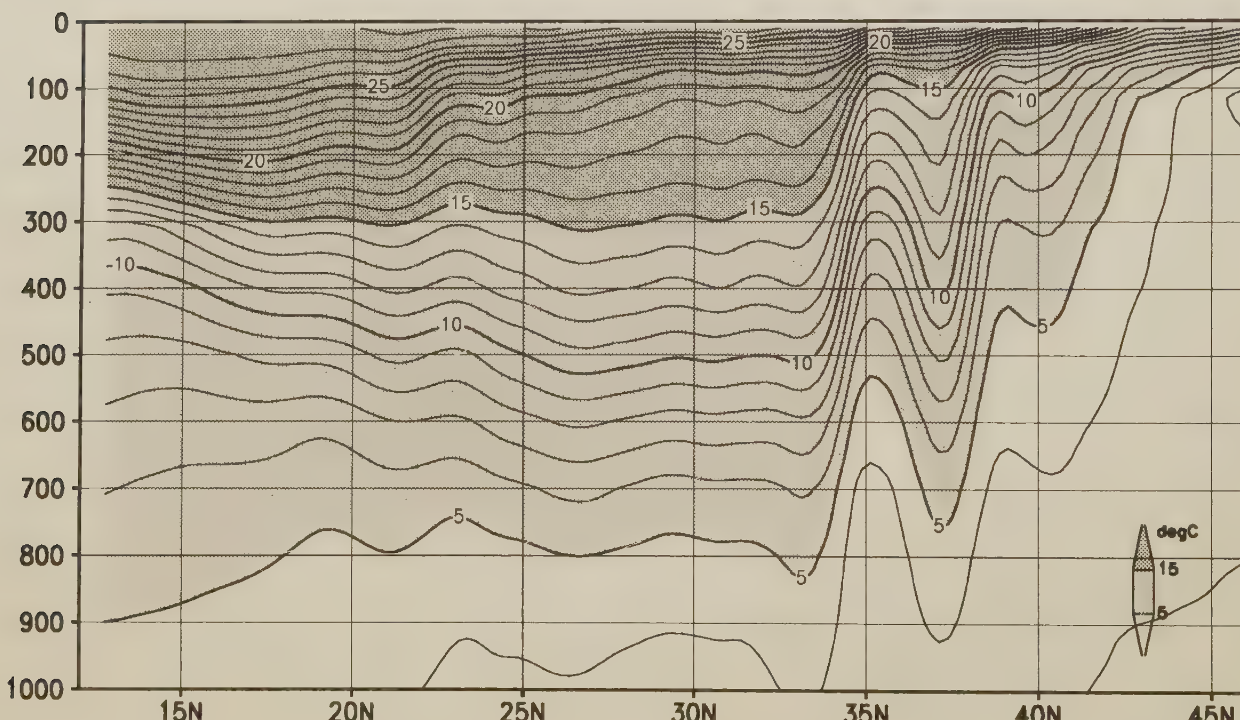
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Fig. 10　Monthly mean sea surface height (top) and current (bottom) in the western North Pacific for September 2005. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



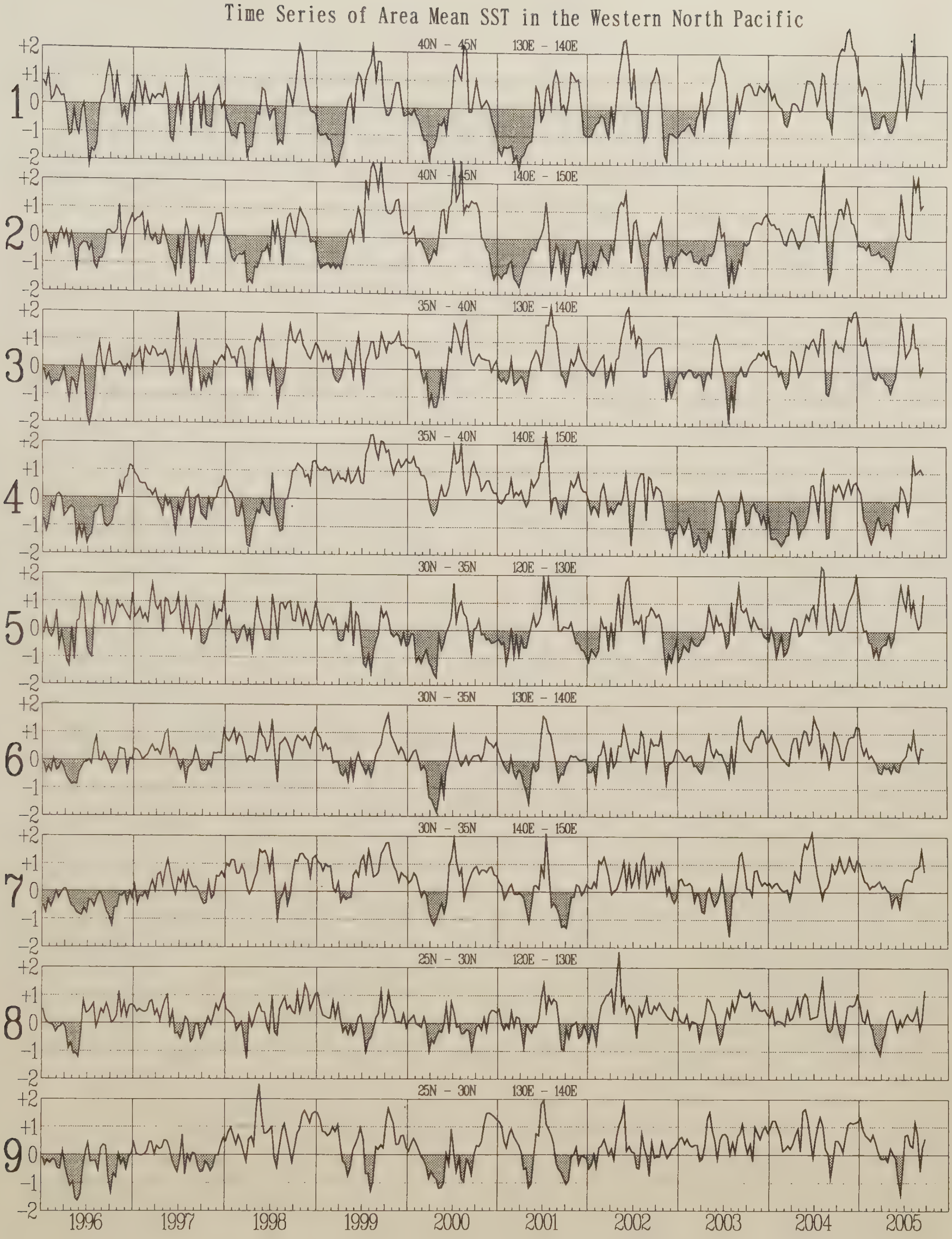
第 11 図　東経 137° 線に沿う月平均表層水温の鉛直断面図 （2005 年 9 月）
（海洋総合解析システムによる）

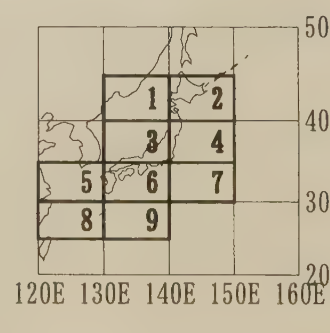
Fig. 11　Vertical cross section of monthly mean temperature along 137 °E for September 2005. Contour interval is 1 °C. (calculated by the Ocean Comprehensive Analysis System)



第 12 図　東経 165° 線に沿う月平均表層水温の鉛直断面図 （2005 年 9 月）
（海洋総合解析システムによる）

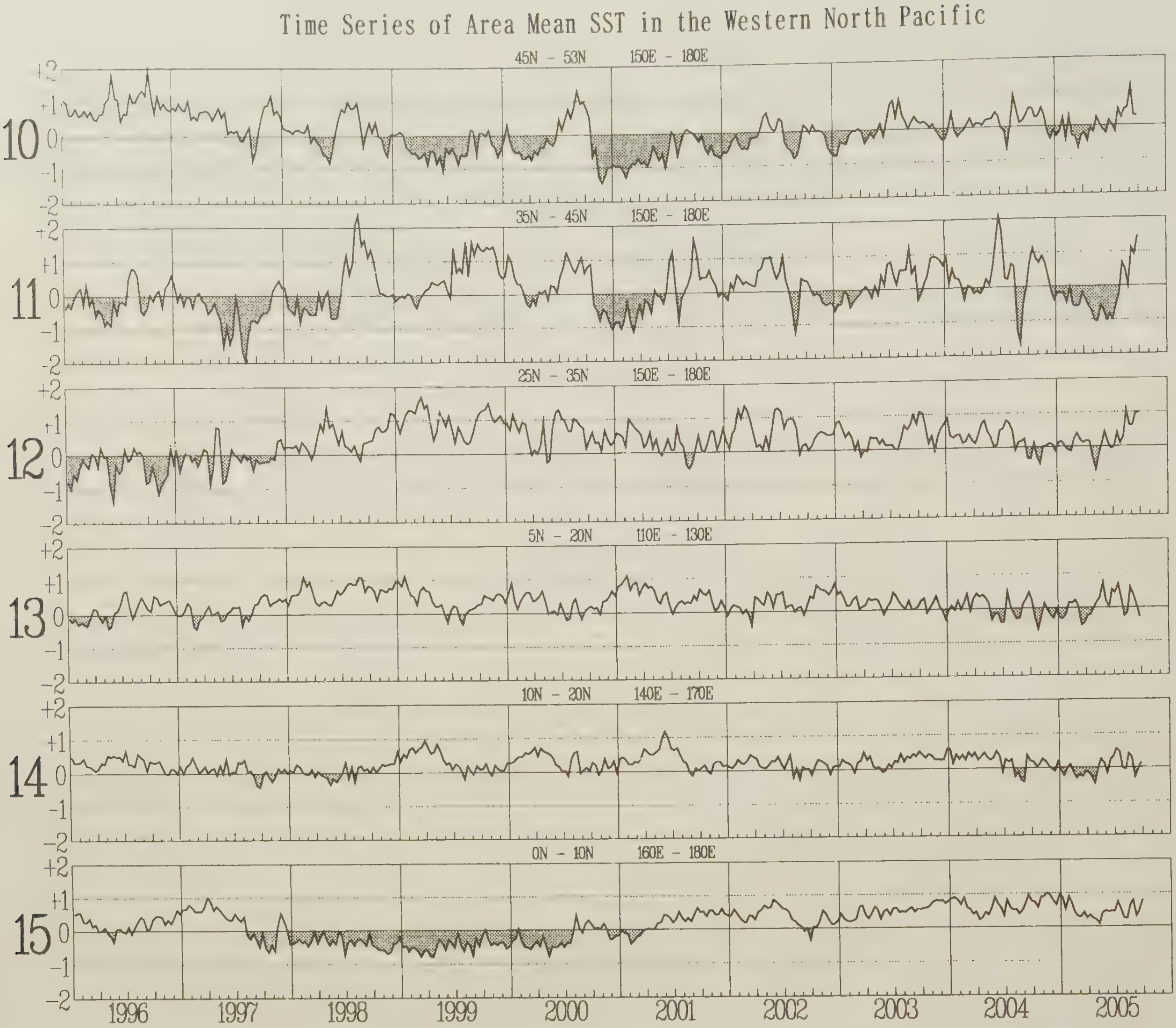
Fig. 12　Vertical cross section of monthly mean temperature along 165 °E for September 2005. Contour interval is 1 °C. (calculated by the Ocean Comprehensive Analysis System)





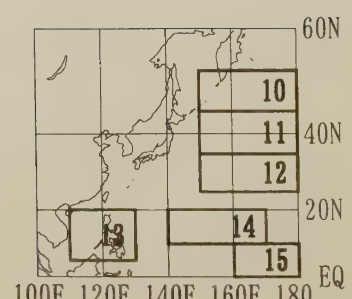
第13図　海域別旬平均海面水温平年偏差時系列図

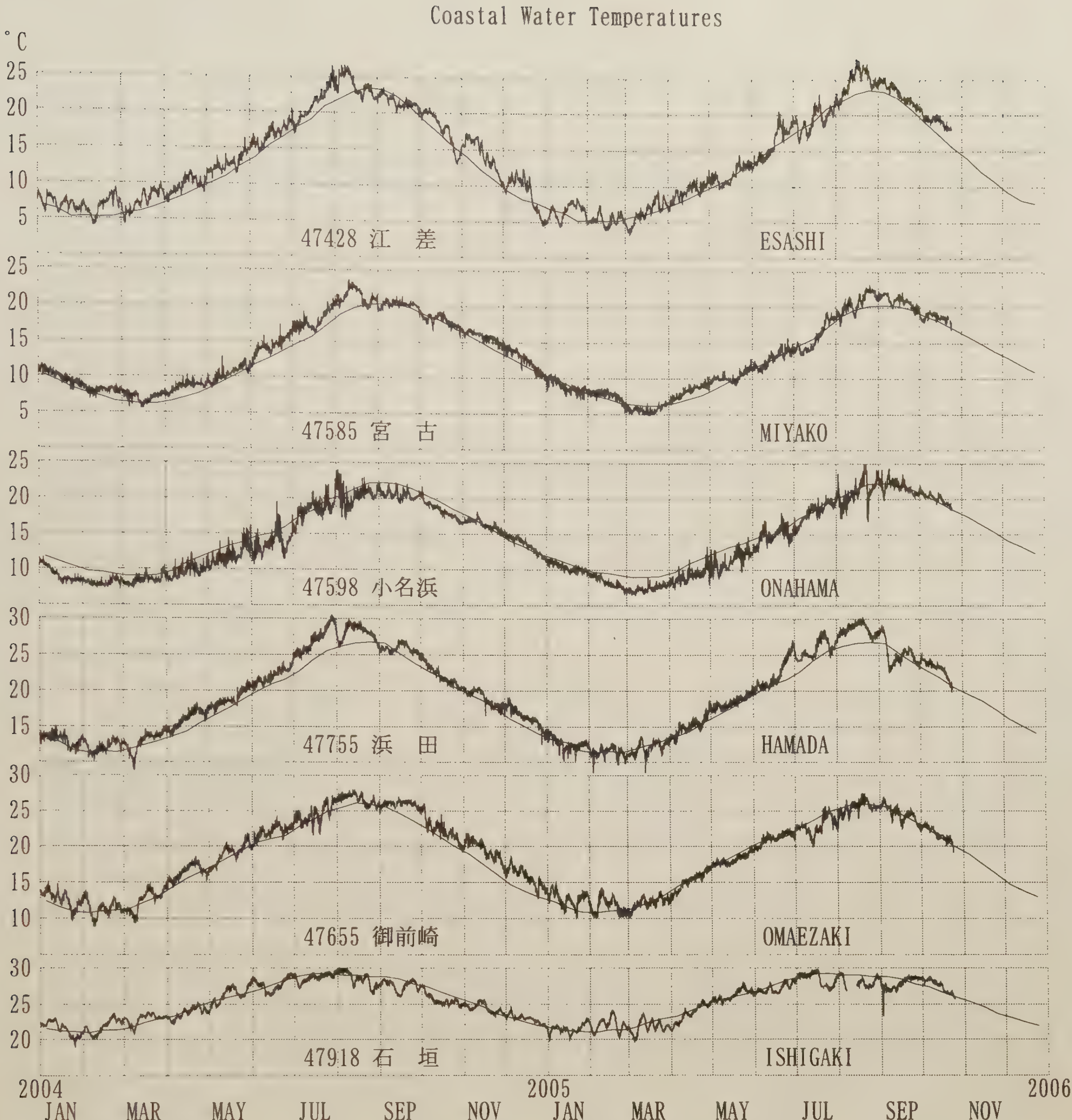
Fig. 13 Time series of the ten-day mean SST anomalies (°C) averaged for the sub-areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).



第13図　海域別旬平均海面水温平年偏差時系列図（つづき）

Fig. 13 (continued) Time series of the ten-day mean SST anomalies (°C) averaged for the sub-areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).

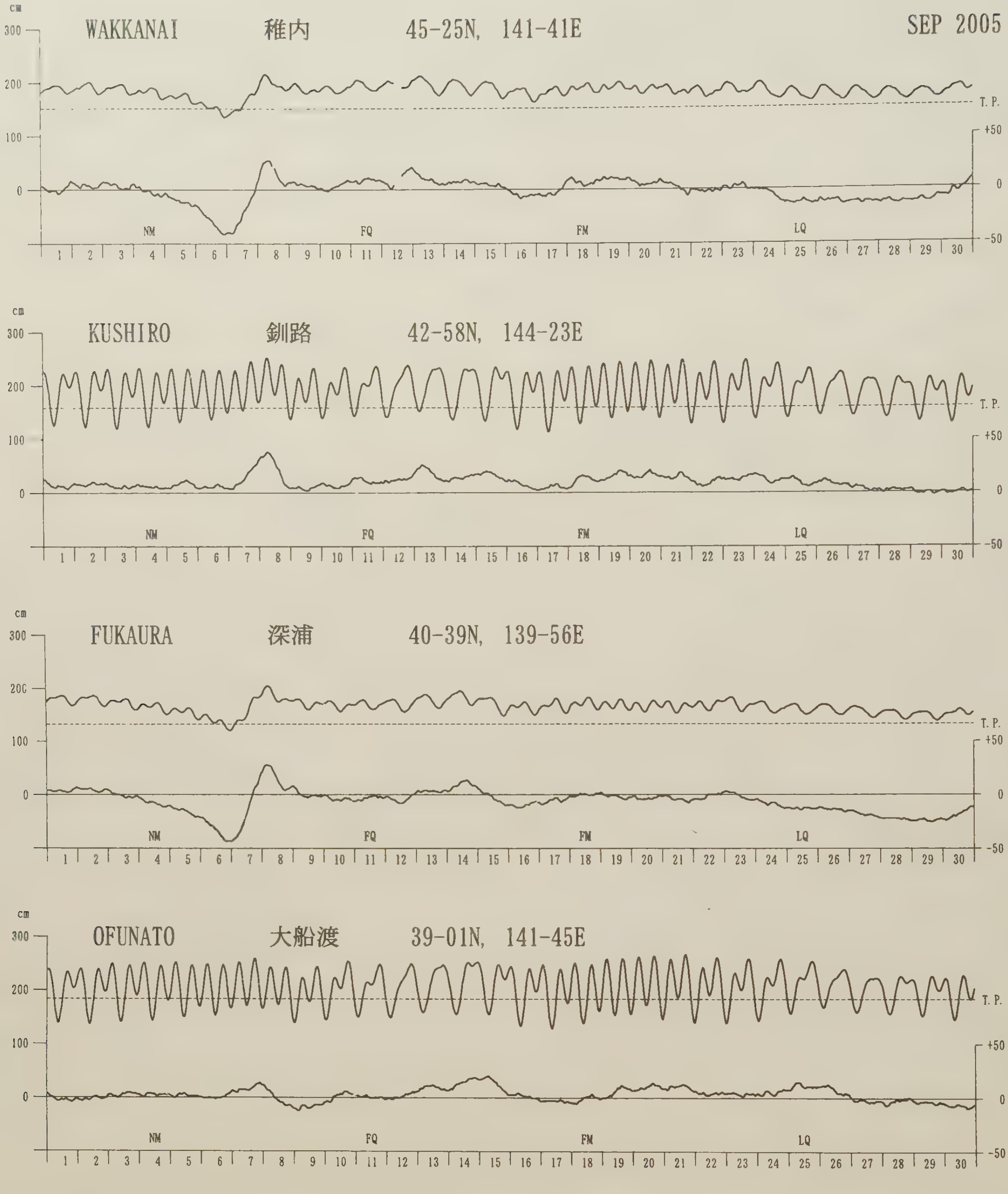






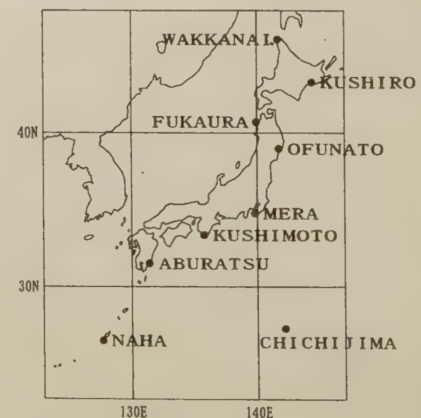
第14図 沿岸水温時系列図

Fig. 14 Time series of hourly coastal water temperatures (°C) measured at 6 coastal stations of the JMA shown in the right panel.
Thin lines show ten-day mean climatology.

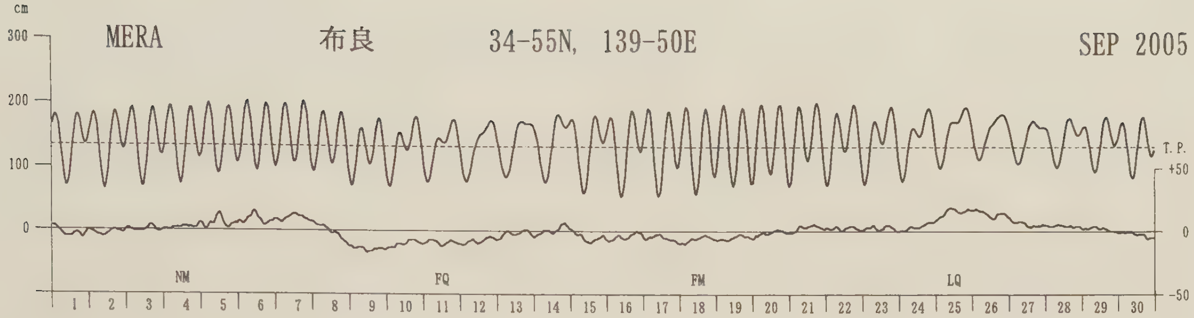


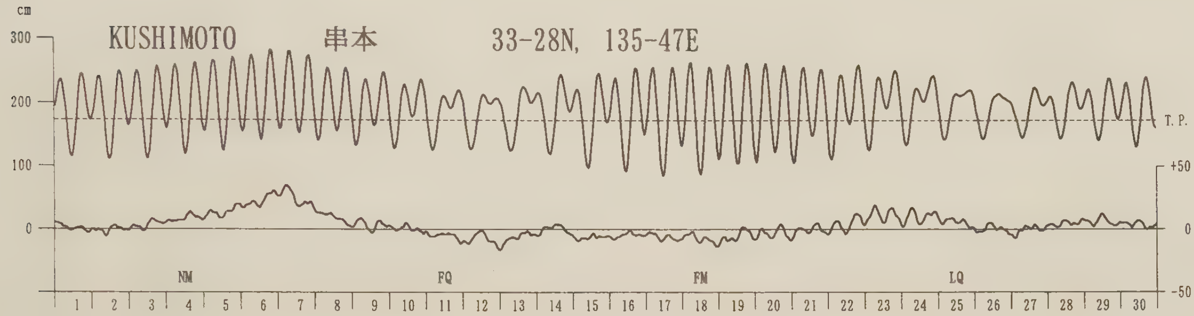
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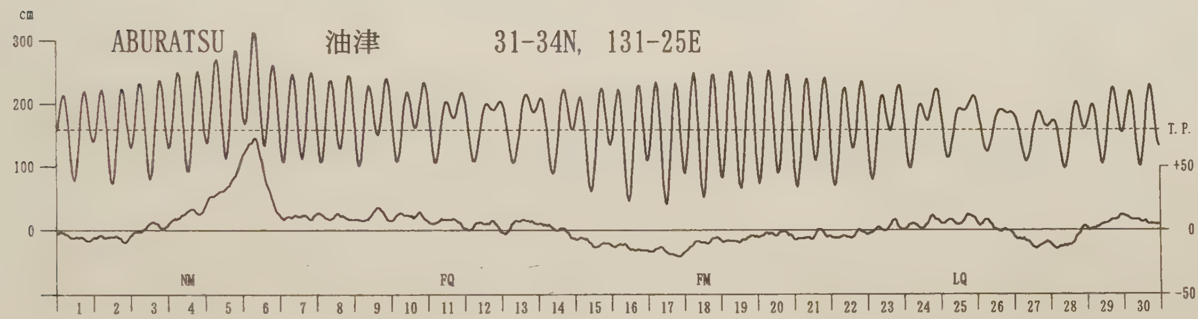
Fig. 15 Time series of hourly sea level observation (upper line) and its anomalies (lower line) at 9 stations of the JMA in the right panel.
Short term variations are filtered out from raw data.

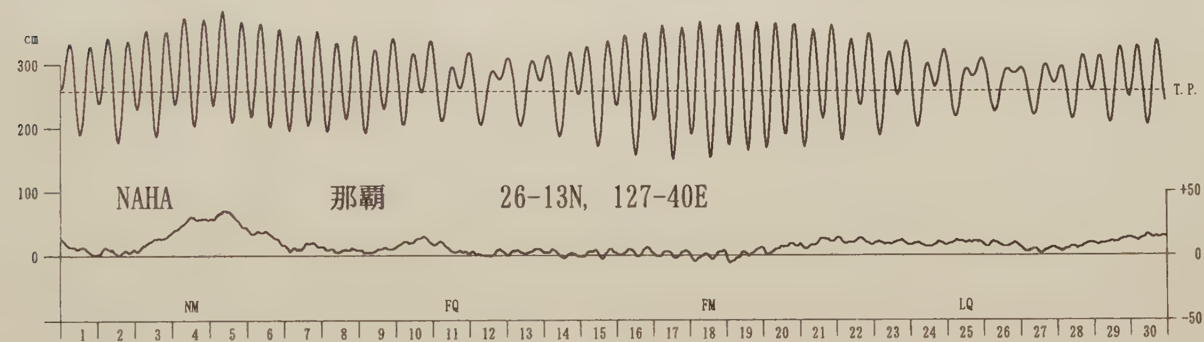


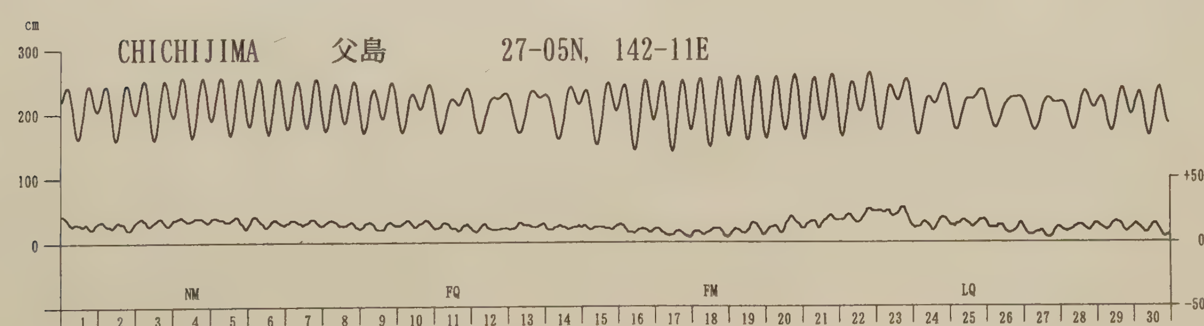
NM: new moon, FQ: first quarter
FM: full moon, LQ: last quarter
T. P. : Mean sea level of Tokyo Bay (Tokyo Peil)





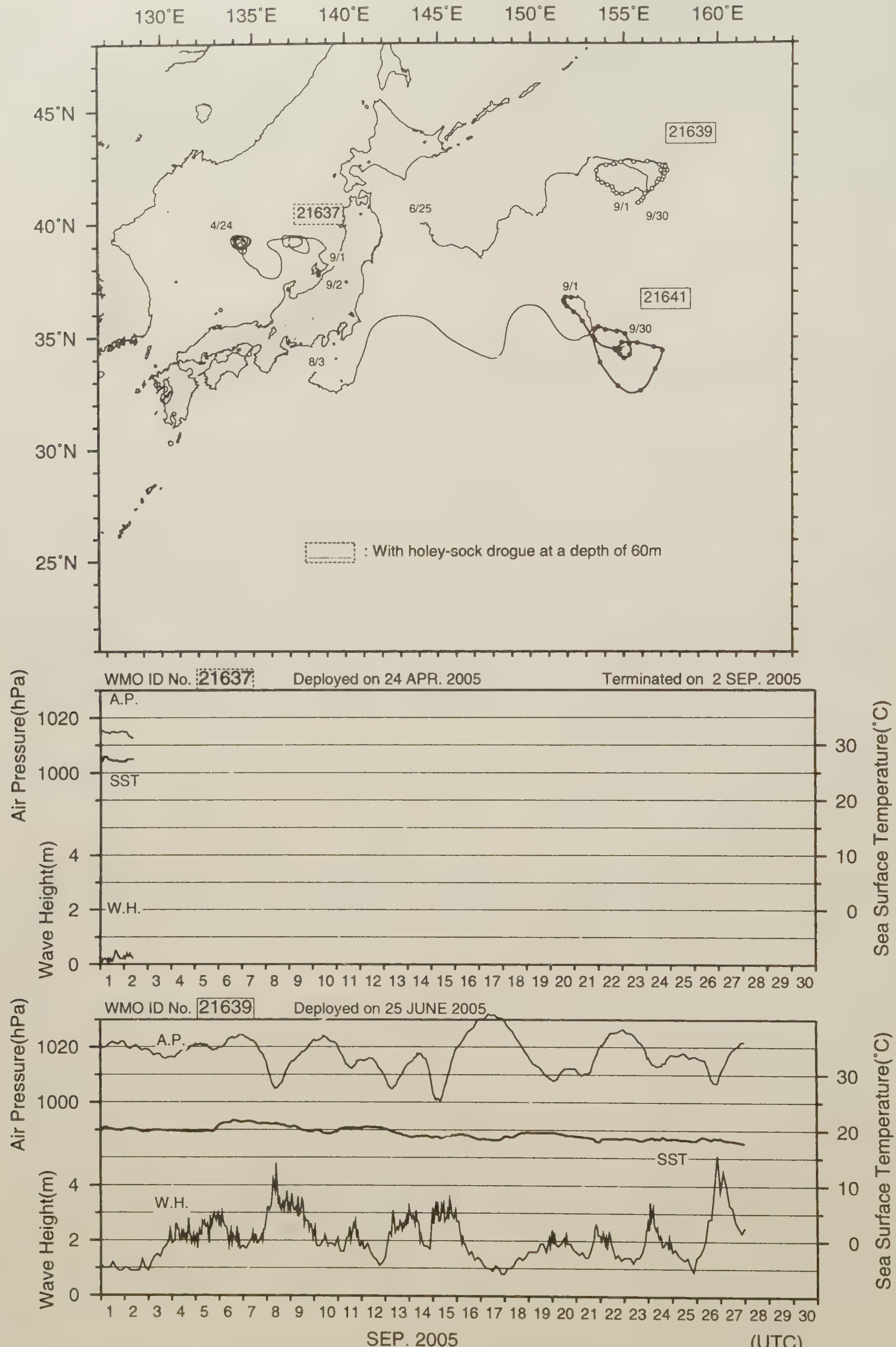






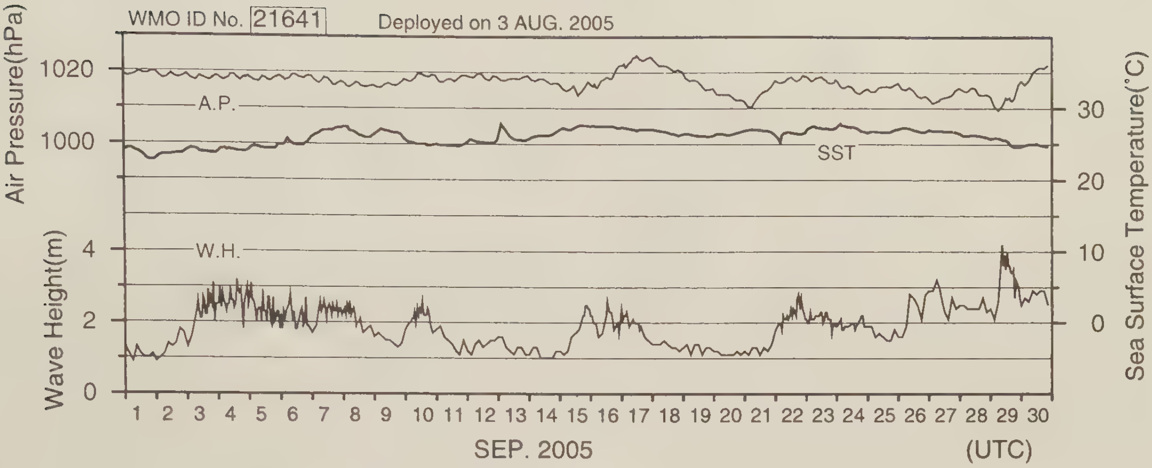
第15図 つづき

Fig. 15 (continued)



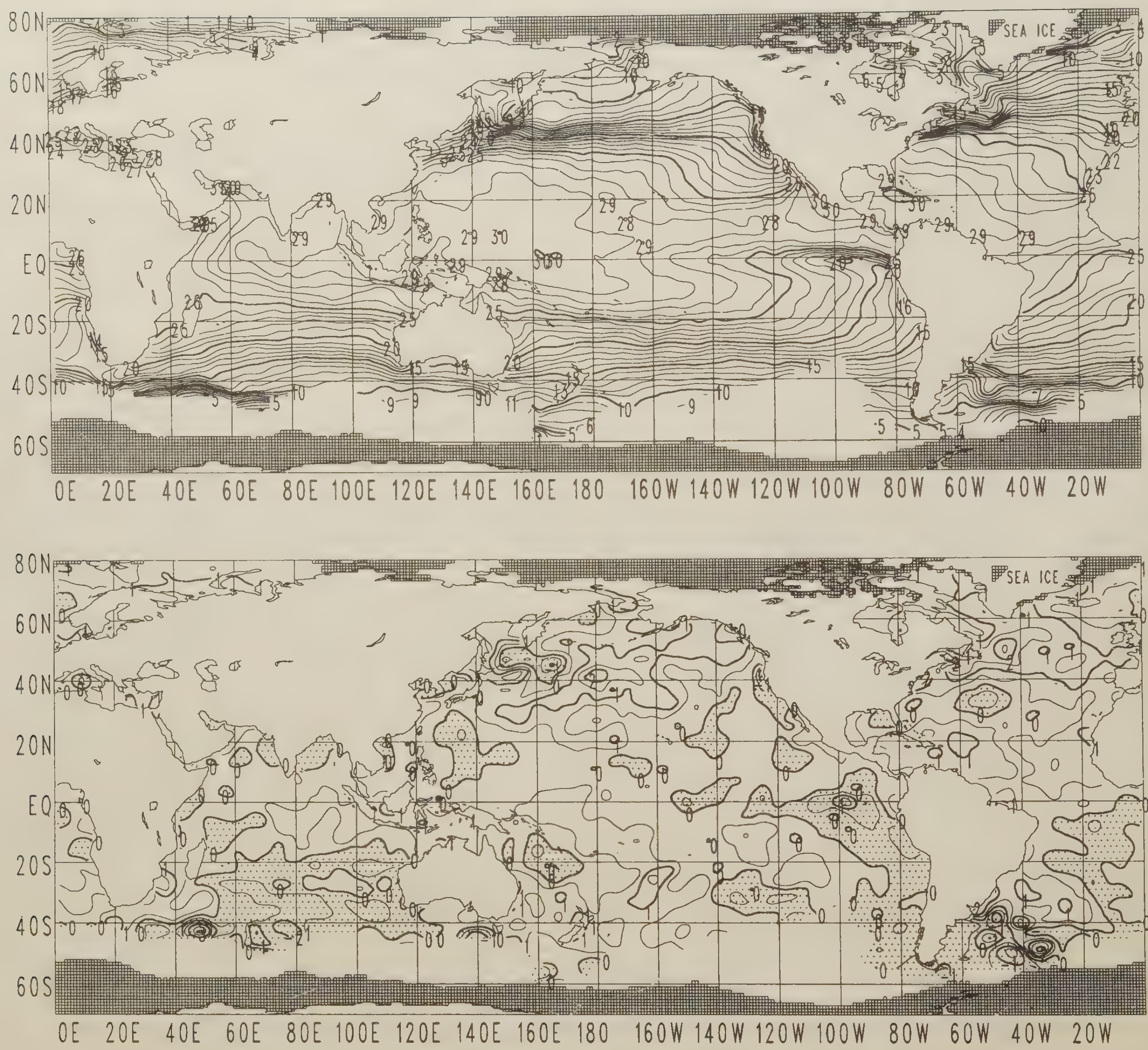
第16図　漂流型海洋気象ブイロボットの軌跡と観測要素の時系列図

Fig.16　Time series of JMA drifting buoy observation.
The upper panel shows paths of the buoys. Circles denote the position at 00h UTC everyday.
The lower panel shows time series of observation data.



第16図 つづき
Fig.16 (continued)

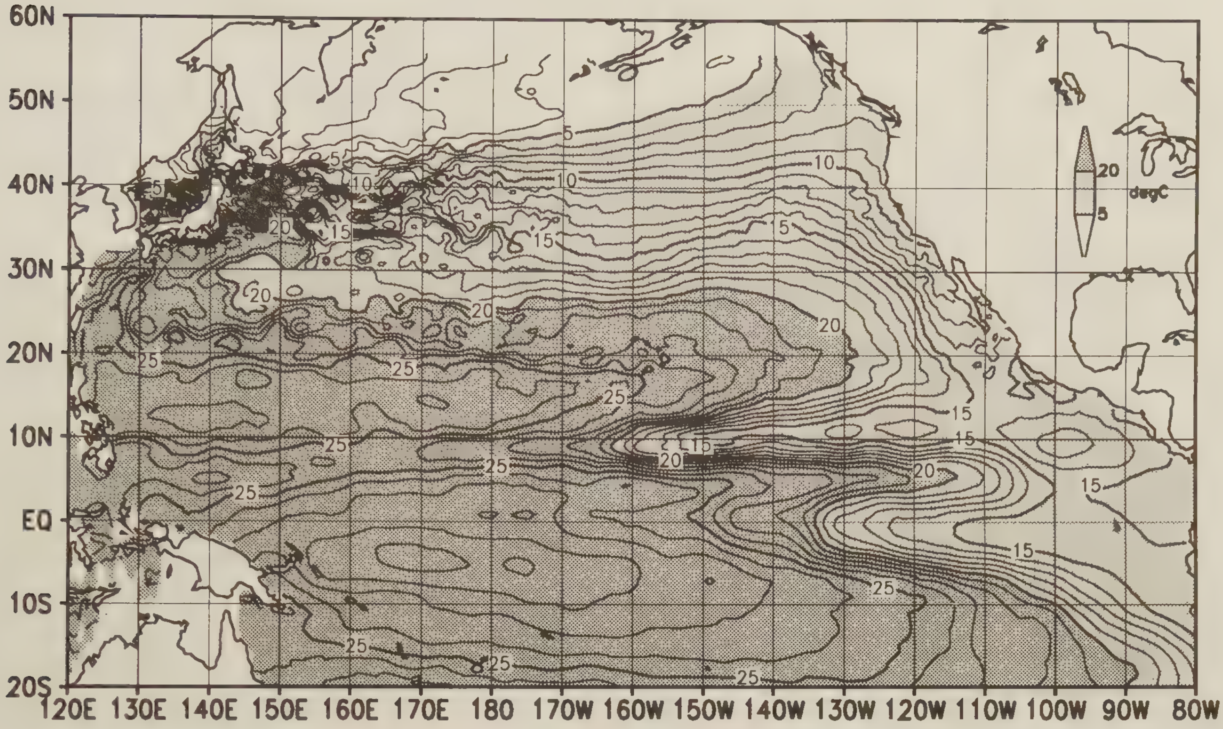
SST & Anomalies in the Global Ocean



第17図　全球月平均海面水温図（上）及び偏差図（下）（2005年 9月）

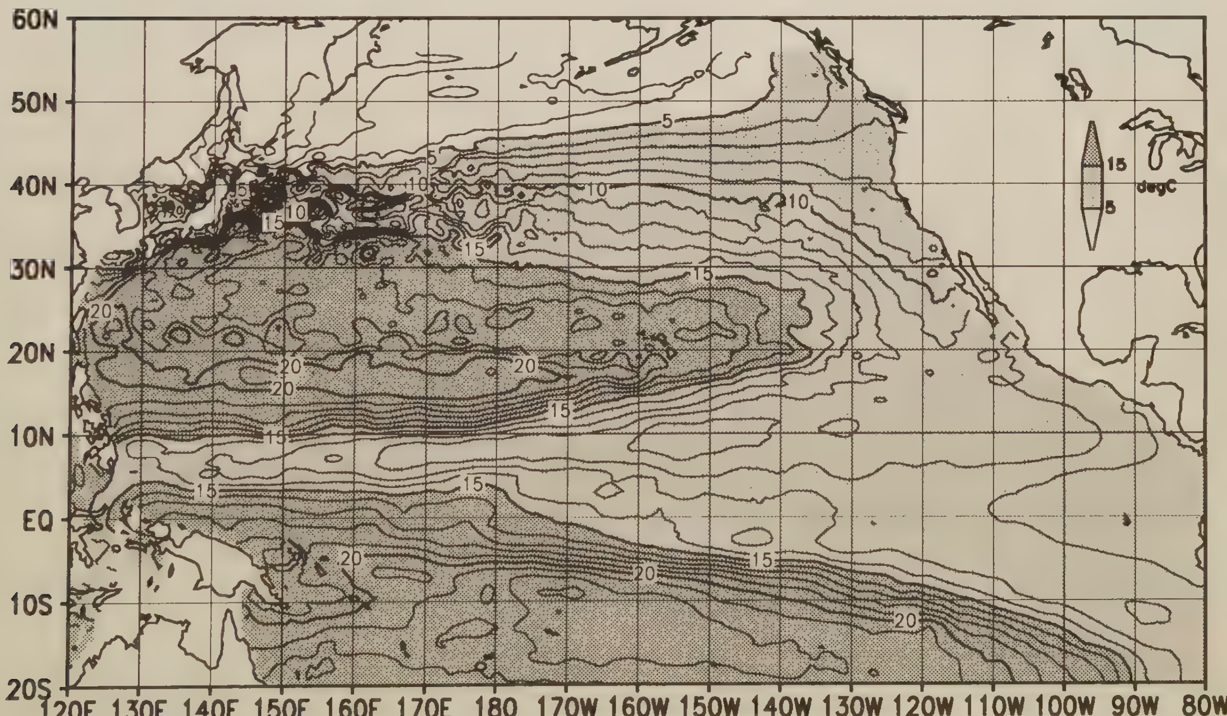
Fig. 17 Monthly mean SST over the global ocean (top) and anomalies (bottom) for September 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of ±0.5°C are shown by thin lines. Negative anomalies are stippled. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).

100m / 200m Temperature in the Pacific Ocean



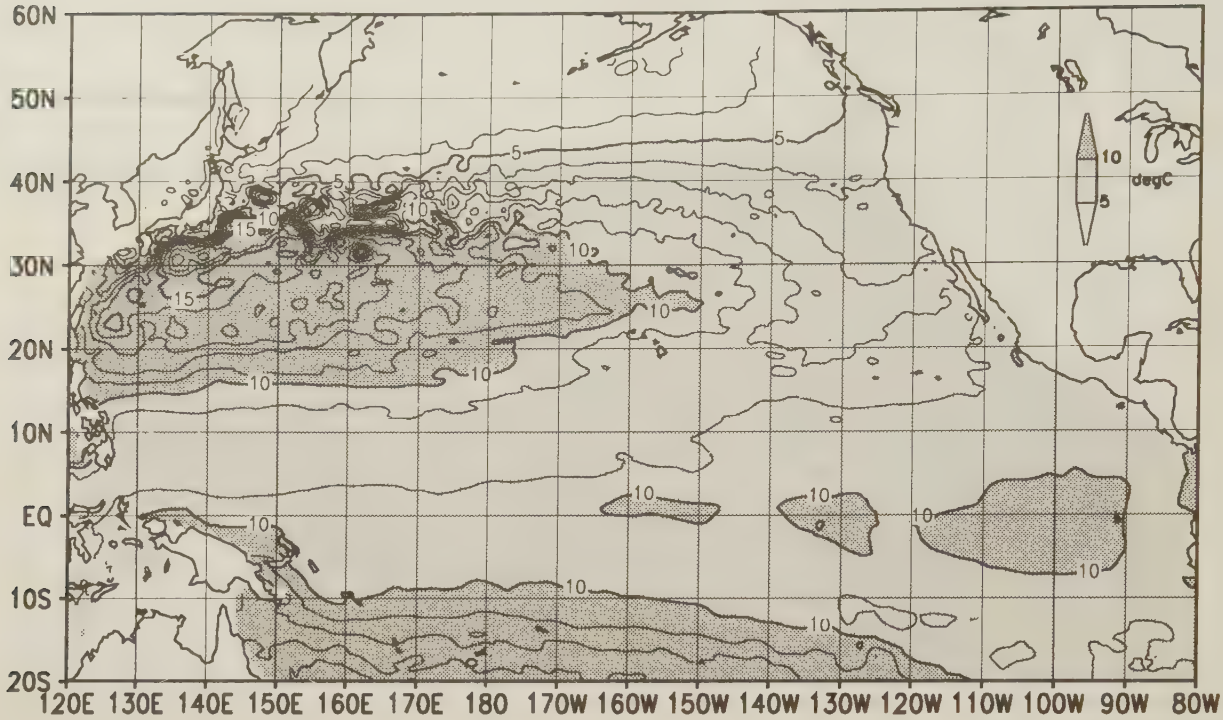
第 18 図　太平洋月平均表層水温図（深さ 100 m）　(2005 年 9 月)
（海洋総合解析システムによる）

Fig. 18　Monthly mean subsurface (100 m) temperature in the Pacific Ocean for September 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



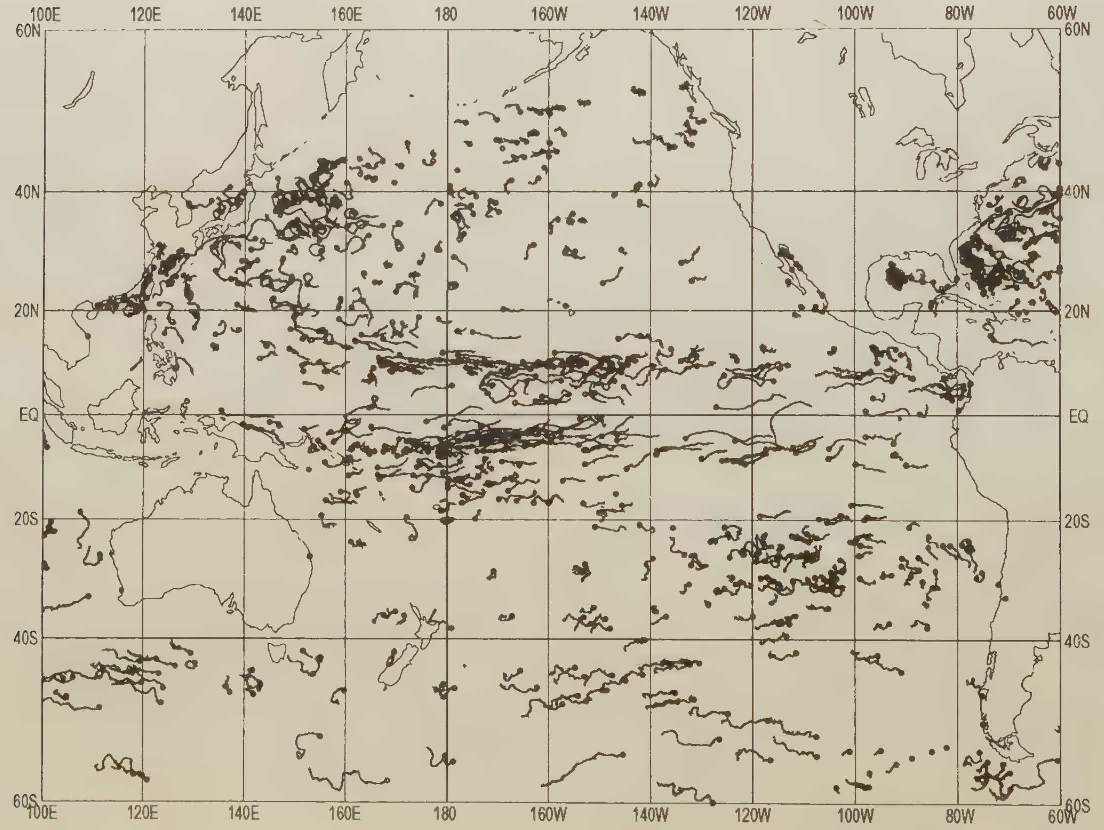
第 19 図　太平洋月平均表層水温図（深さ 200 m）　(2005 年 9 月)
（海洋総合解析システムによる）

Fig. 19　Monthly mean subsurface (200 m) temperature in the Pacific Ocean for September 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



第 20 図　太平洋月平均表層水温図（深さ 400 m）　(2005 年 9 月）
（海洋総合解析システムによる）

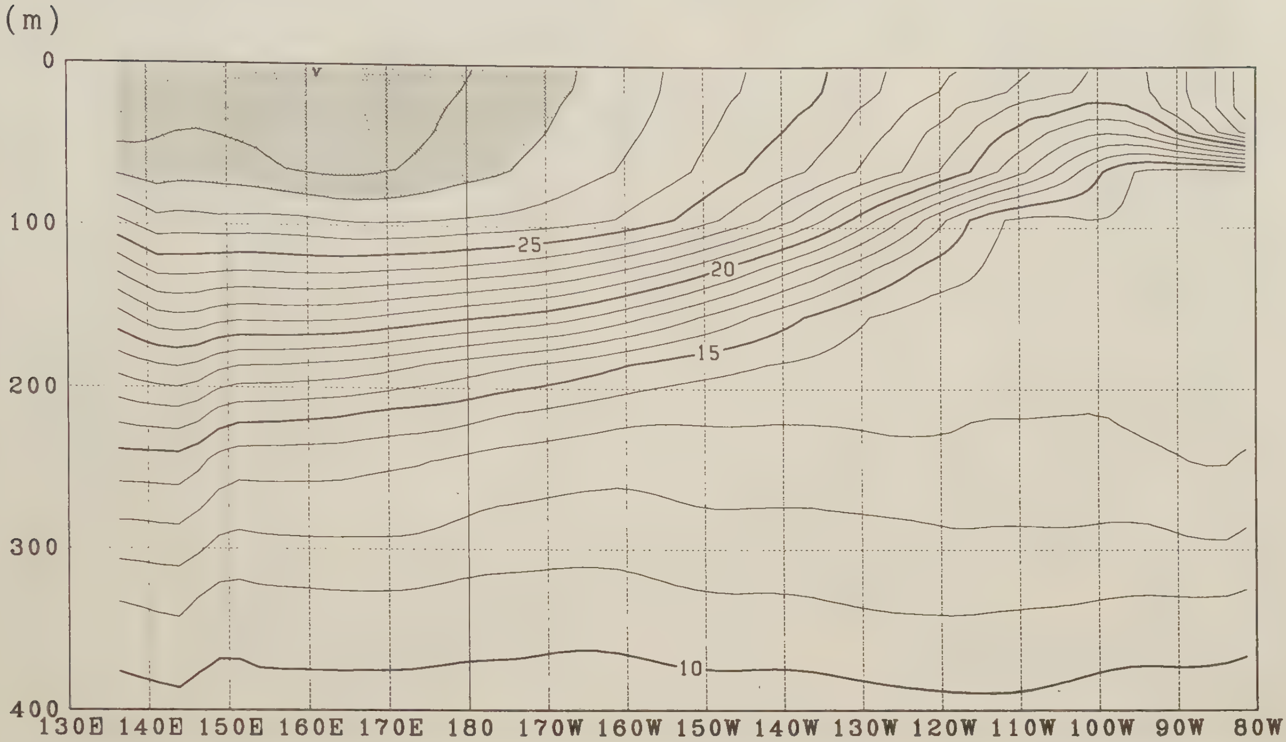
Fig. 20　Monthly mean subsurface (400 m) temperature in the Pacific Ocean for September 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)

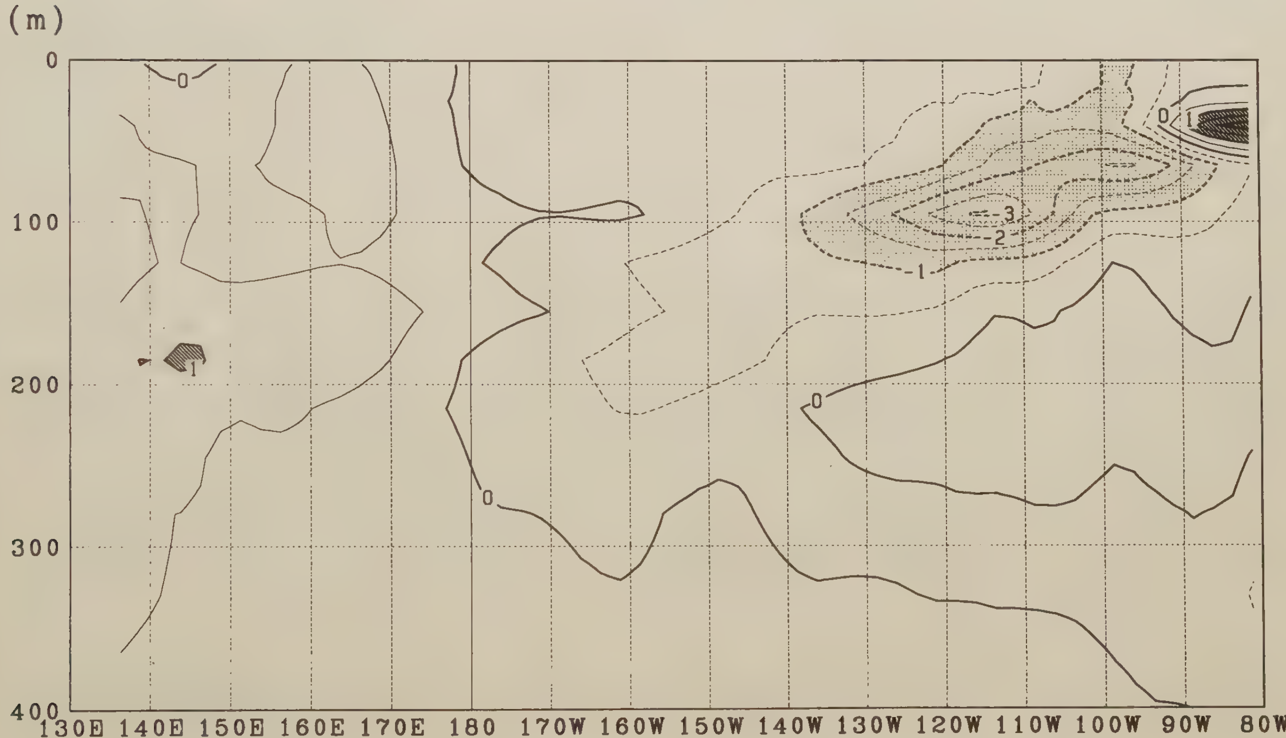


第 21 図　太平洋ブイ流跡図（2005 年 9 月）

Fig. 21　Trajectories of drifting buoys in the Pacific Ocean during September 2005. Each track is for one buoy. Small circles represent the last positions for the month.

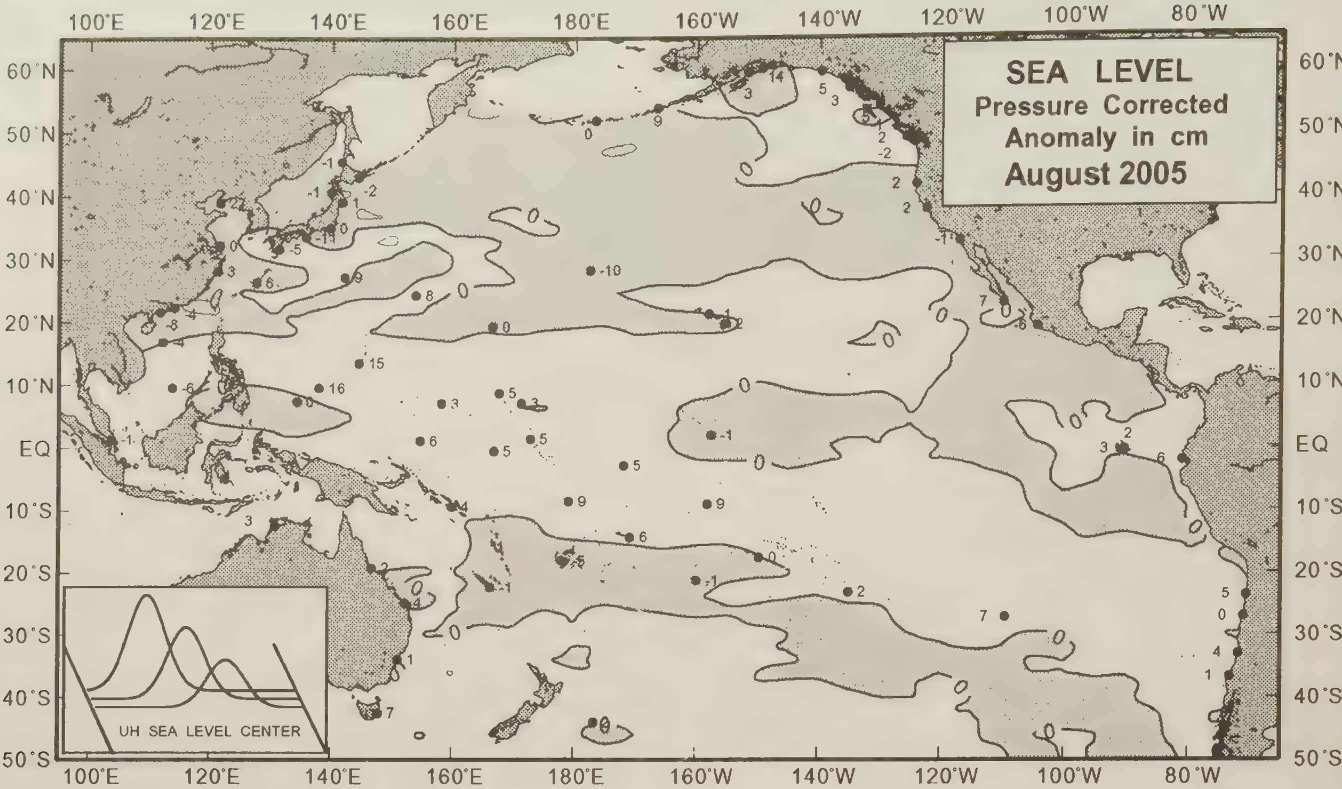
Depth-Longitude Sections of Equatorial Temperature & Anomalies





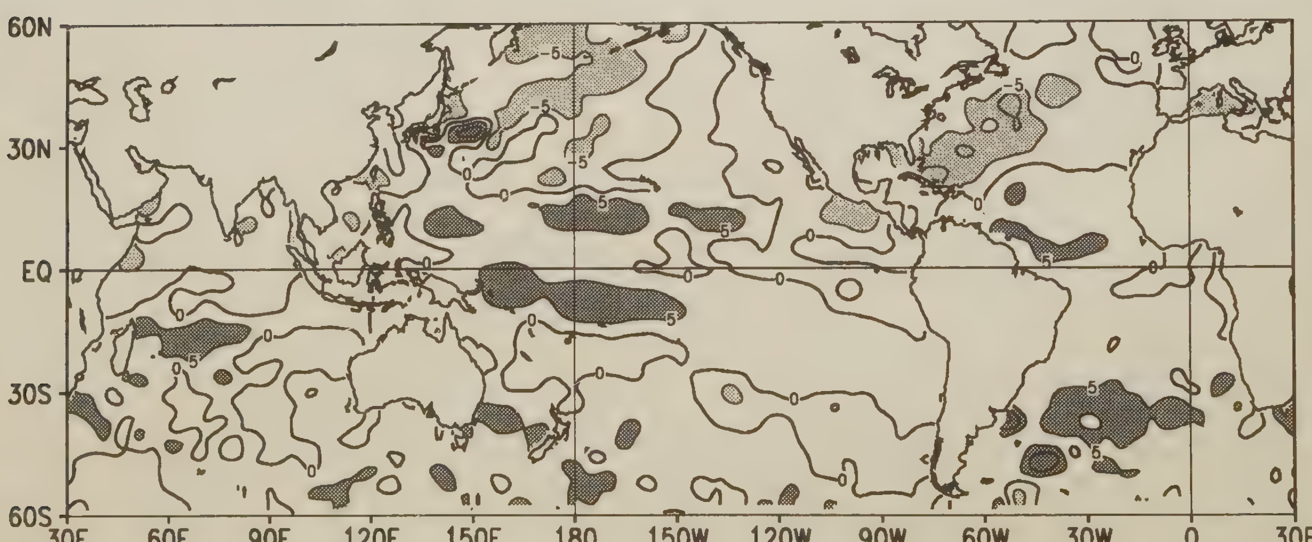
第22図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（2005年 9月）

Fig. 22 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for September 2005. Data are derived from the Ocean Data Assimilation System of JMA. Contour intervals are 1°C (top) and 0.5°C (bottom). Values greater than 28°C in the top panel are shaded. In the bottom panel, values greater than 1°C are dark-shaded and values less than -1°C are light-shaded. Anomalies are computed from 1987-2004 base period means.



第 23 図　太平洋月平均海面水位偏差図（2005 年 8 月）

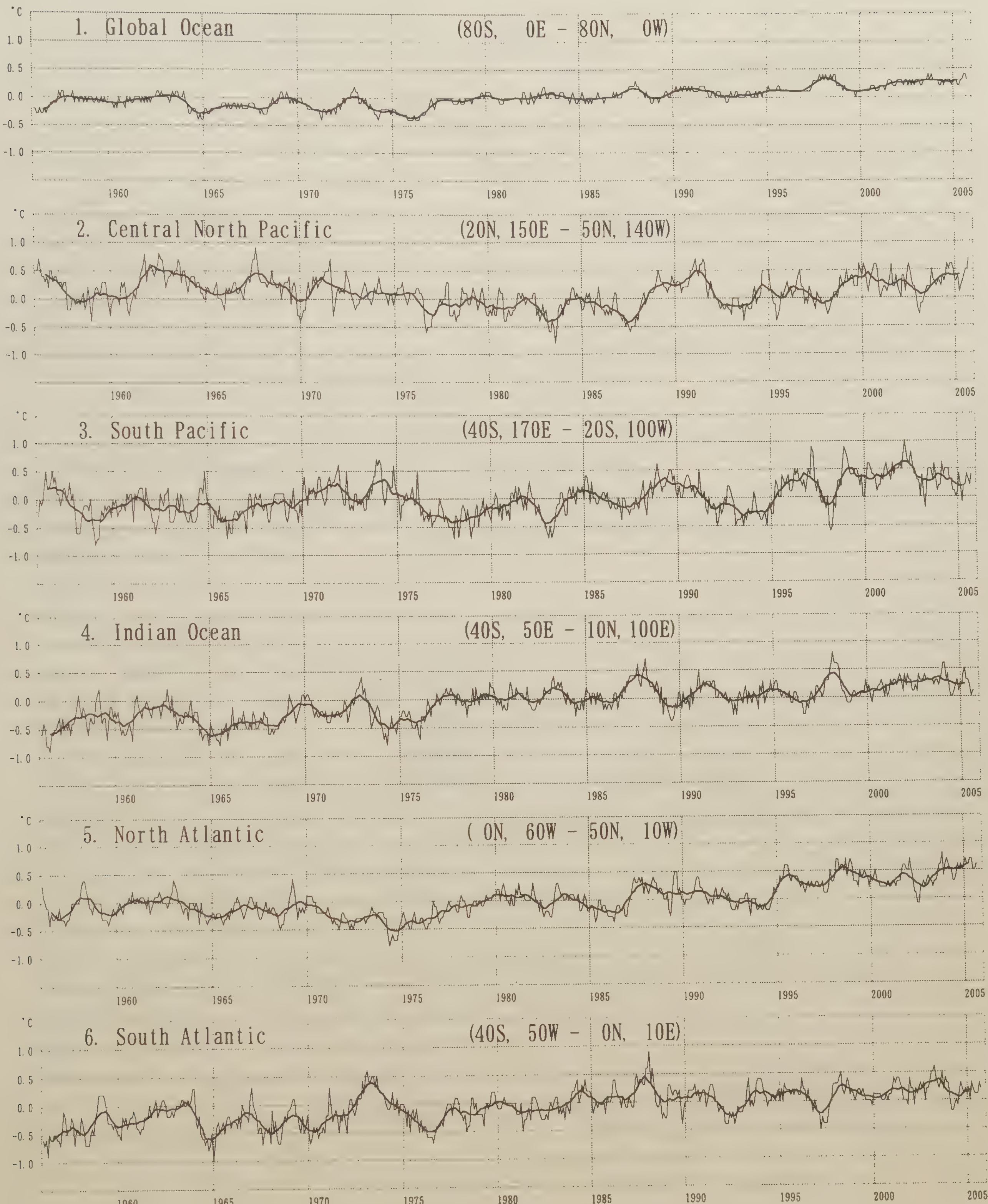
Fig. 23　Monthly sea level anomalies for August 2005 obtained from mean sea level (1993-2001) adjusted for atmospheric pressure. This figure is prepared by the SOC of ISLP-PAC, Department of Oceanography, University of Hawaii.



第 24 図　全球月平均海面高度偏差図（2005 年 8 月）

Fig. 24　Monthly sea surface height anomalies in the global ocean derived from the altimeter data of Jason-1 for August 2005. Contour interval is 5 cm. Positive anomalies exceeding +5 cm are dark-shaded and negative anomalies exceeding -5 cm are light-shaded. Anomalies are computed from 1993-1998 base period means.

Long-term Variation of Monthly Mean SST Anomalies

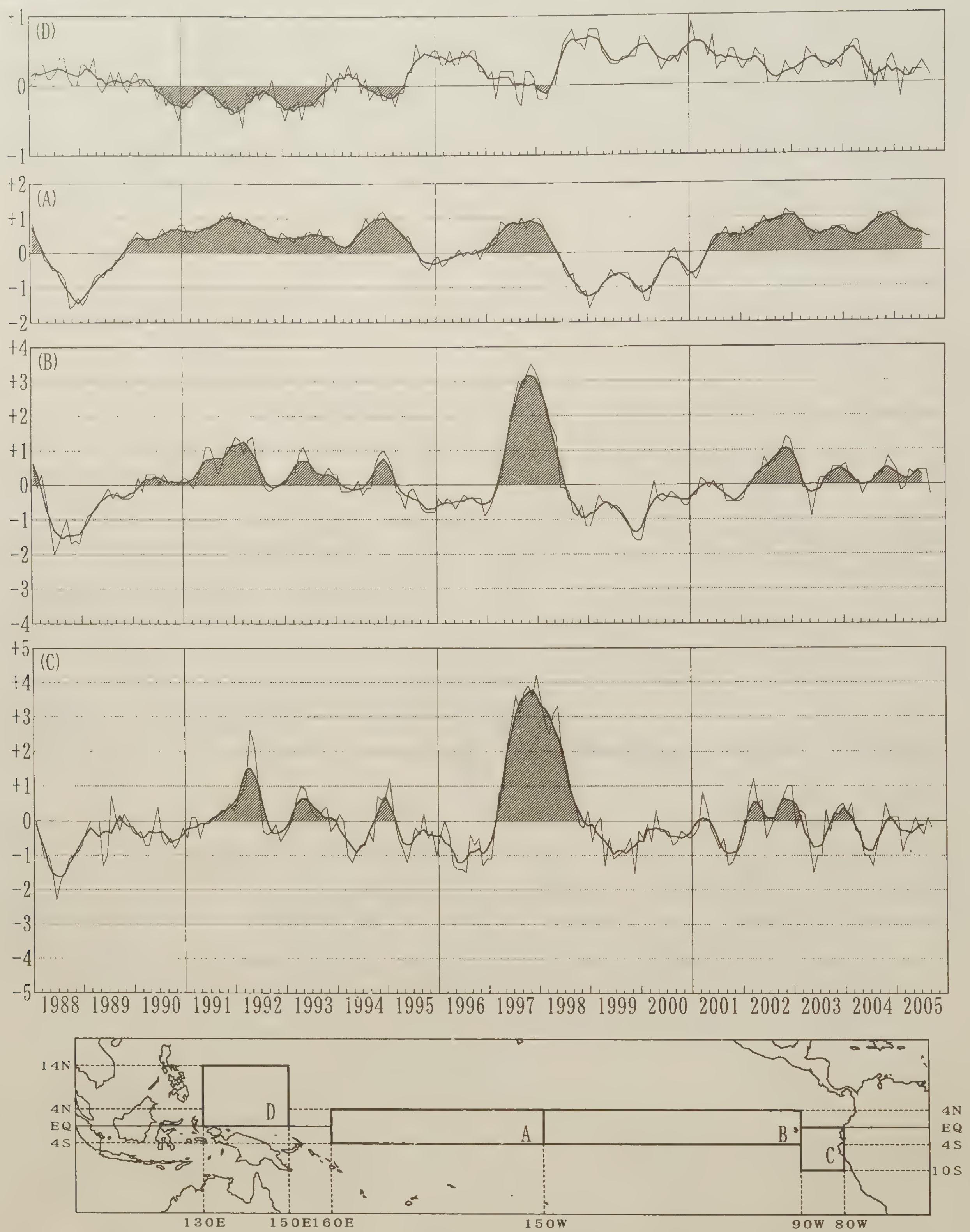


第25図 海域平均海面水温偏差の長期変動

Fig. 25 Long-term variations of monthly mean SST anomalies (°C) averaged for the sub-areas shown in the right panel. Anomalies are computed from the JMA climatology (1971-2000). Thin lines show the monthly mean and thick lines their 13-month running means.



Time Series of Tropical Pacific SST Anomalies



第26図　太平洋熱帯域の海面水温偏差時系列図

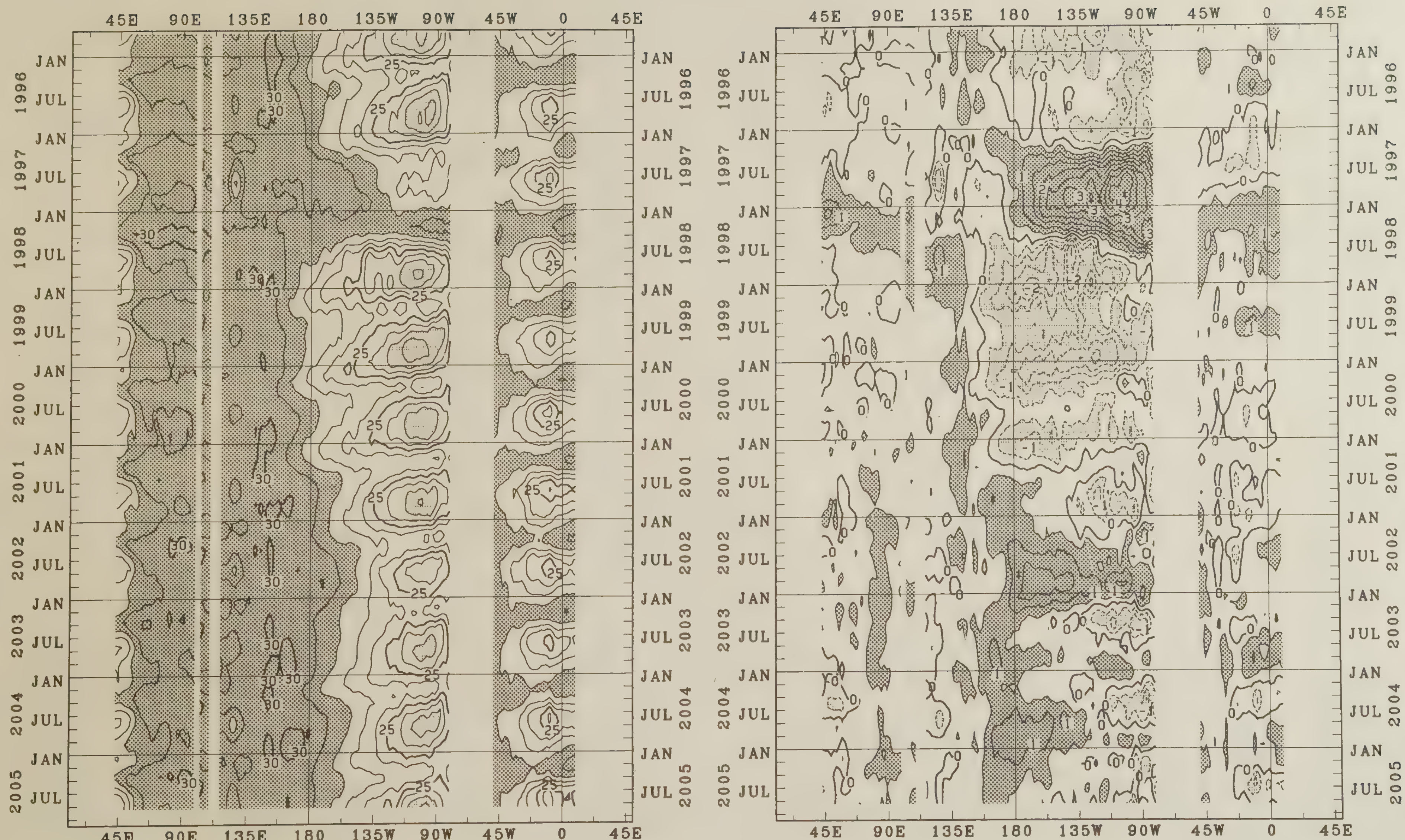
Fig. 26 Time series of monthly mean SST anomalies (°C) in the tropical Pacific Ocean for the areas indicated at the bottom panel. Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1971-2000).

Monitoring Indices in the Tropical Pacific

	SEA SURFACE TEMPERATURE AND ANOMALY (°C)								SOI	SEA LEVEL PRESSURE ANOMALY (hPa)	
MONTH YEAR	REGION D 14N-EQ 130E-150E		REGION A 4N-4S 160E-150W		REGION B 4N-4S 150W-90W		REGION C EQ-10S 90W-80W		SOI	TAHITI 17-33S 149-37W	DARWIN 12-24S 130-52E
JAN 03	28.7	0.2	29.1	1.1	26.2	0.8	24.3	-0.2	-0.1	-0.1	0.2
FEB 03	28.4	0.1	28.9	0.9	26.8	0.5	26.3	0.3	-0.5	-1.5	-0.2
MAR 03	28.7	0.2	29.0	0.9	27.0	-0.1	26.5	0.2	-0.3	-0.2	0.5
APR 03	29.3	0.5	28.8	0.6	27.1	-0.1	24.9	-0.5	-0.1	0.5	0.8
MAY 03	29.7	0.4	28.9	0.3	26.0	-0.9	22.8	-1.5	-0.6	-0.7	0.2
JUN 03	29.8	0.4	29.1	0.6	25.9	-0.3	21.9	-1.0	-0.9	-0.9	0.4
JUL 03	29.6	0.3	29.0	0.5	25.6	0.2	20.9	-1.0	0.2	0.7	0.3
AUG 03	29.4	0.2	28.9	0.5	24.9	0.2	21.2	0.3	0.0	-0.2	-0.1
SEP 03	29.5	0.2	28.9	0.5	24.8	0.1	20.2	-0.3	-0.1	-0.3	0.0
OCT 03	29.7	0.3	29.1	0.7	25.2	0.5	21.1	0.2	-0.1	-0.5	-0.4
NOV 03	29.6	0.3	29.1	0.7	25.2	0.5	22.2	0.4	-0.2	0.0	0.4
DEC 03	29.2	0.2	28.9	0.7	25.5	0.5	23.4	0.5	1.1	0.9	-1.1
JAN 04	29.0	0.5	28.7	0.7	26.0	0.6	24.7	0.2	-1.0	-1.5	0.9
FEB 04	28.8	0.5	28.4	0.4	26.5	0.2	26.5	0.5	0.8	1.4	-0.6
MAR 04	29.1	0.6	28.3	0.2	27.2	0.1	26.0	-0.3	0.1	-0.7	-1.3
APR 04	29.4	0.6	28.7	0.5	27.3	0.1	25.1	-0.3	-1.4	-1.0	1.3
MAY 04	29.6	0.3	29.1	0.5	26.6	-0.3	23.3	-1.0	1.2	0.9	-0.7
JUN 04	29.4	0.0	29.1	0.6	26.2	0.0	21.9	-1.0	-1.1	0.1	1.7
JUL 04	29.6	0.3	29.3	0.8	25.4	0.0	20.6	-1.3	-0.6	-0.2	0.9
AUG 04	29.1	-0.1	29.2	0.8	25.0	0.3	20.2	-0.7	-0.5	-0.5	0.3
SEP 04	29.5	0.2	29.5	1.1	24.9	0.2	20.3	-0.2	-0.2	0.4	0.9
OCT 04	29.4	0.0	29.4	1.0	25.1	0.4	21.4	0.5	-0.2	0.0	0.3
NOV 04	29.6	0.3	29.4	1.0	25.5	0.8	21.9	0.1	-0.7	-0.8	0.5
DEC 04	29.4	0.4	29.3	1.1	25.6	0.6	23.0	0.1	-0.7	-1.4	-0.1
JAN 05	28.7	0.2	29.1	1.1	25.8	0.4	24.6	0.1	0.3	0.3	-0.3
FEB 05	28.1	-0.2	28.7	0.7	26.1	-0.2	25.1	-0.9	-2.2	-3.8	1.9
MAR 05	28.7	0.2	28.8	0.7	27.0	-0.1	25.8	-0.5	0.2	0.8	0.5
APR 05	28.9	0.1	28.8	0.6	27.6	0.4	25.1	-0.3	-0.5	0.2	1.3
MAY 05	29.4	0.1	29.1	0.5	27.2	0.3	24.4	0.1	-1.2	-0.8	0.9
JUN 05	29.6	0.2	29.1	0.6	26.6	0.4	22.7	-0.2	0.4	0.0	-0.6
JUL 05	29.6	0.3	29.0	0.5	25.8	0.4	21.5	-0.4	0.1	0.3	0.2
AUG 05	29.4	0.2	28.8	0.4	25.1	0.4	21.0	0.1	-0.6	-0.5	0.4
SEP 05	29.4	0.1	28.8	0.4	24.4	-0.3	20.3	-0.2	0.3	0.4	-0.2

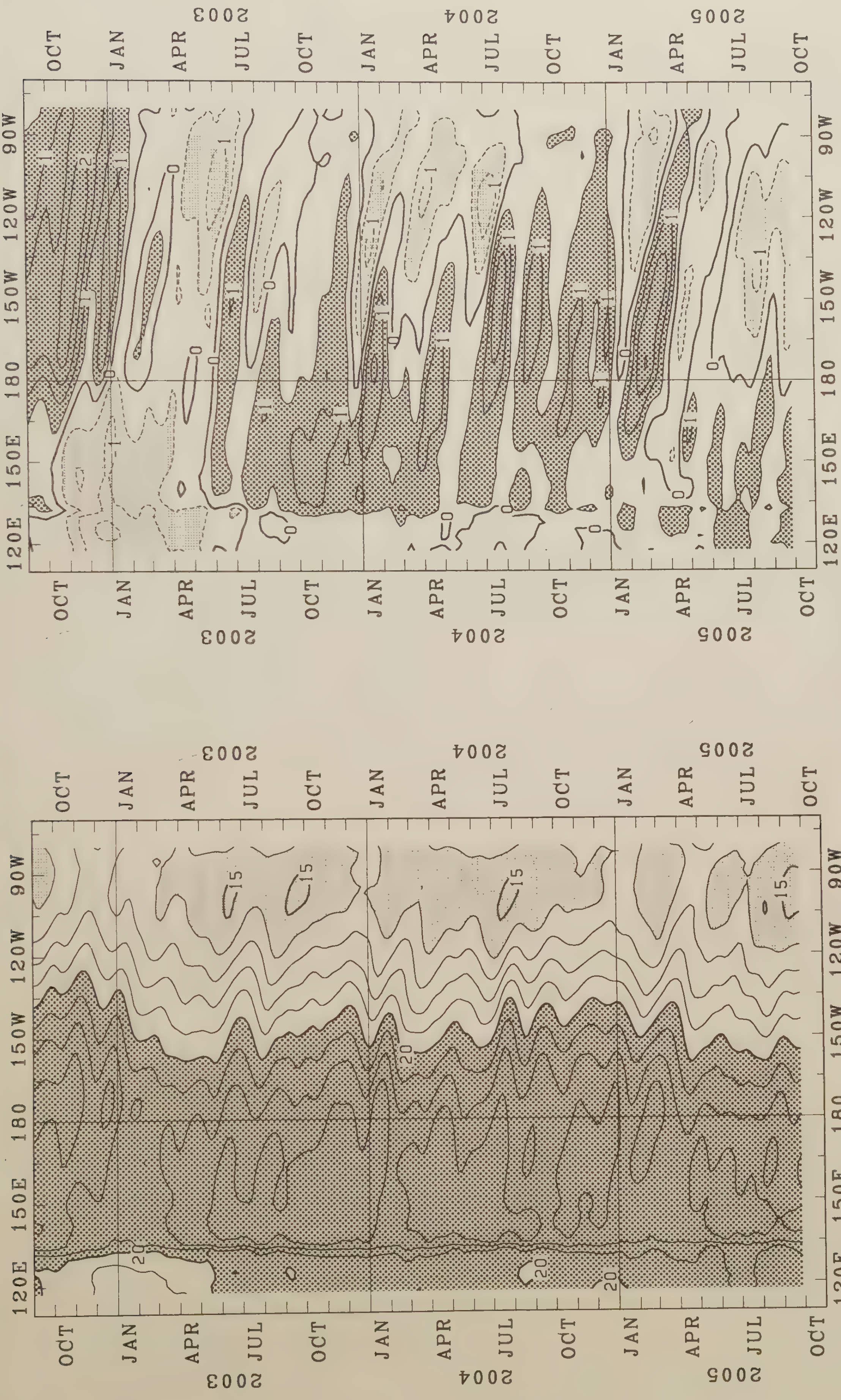
第1表　太平洋熱帯域の大気及び海洋の監視指数

Table 1　Atmospheric and oceanic monitoring indices in the tropical Pacific Ocean



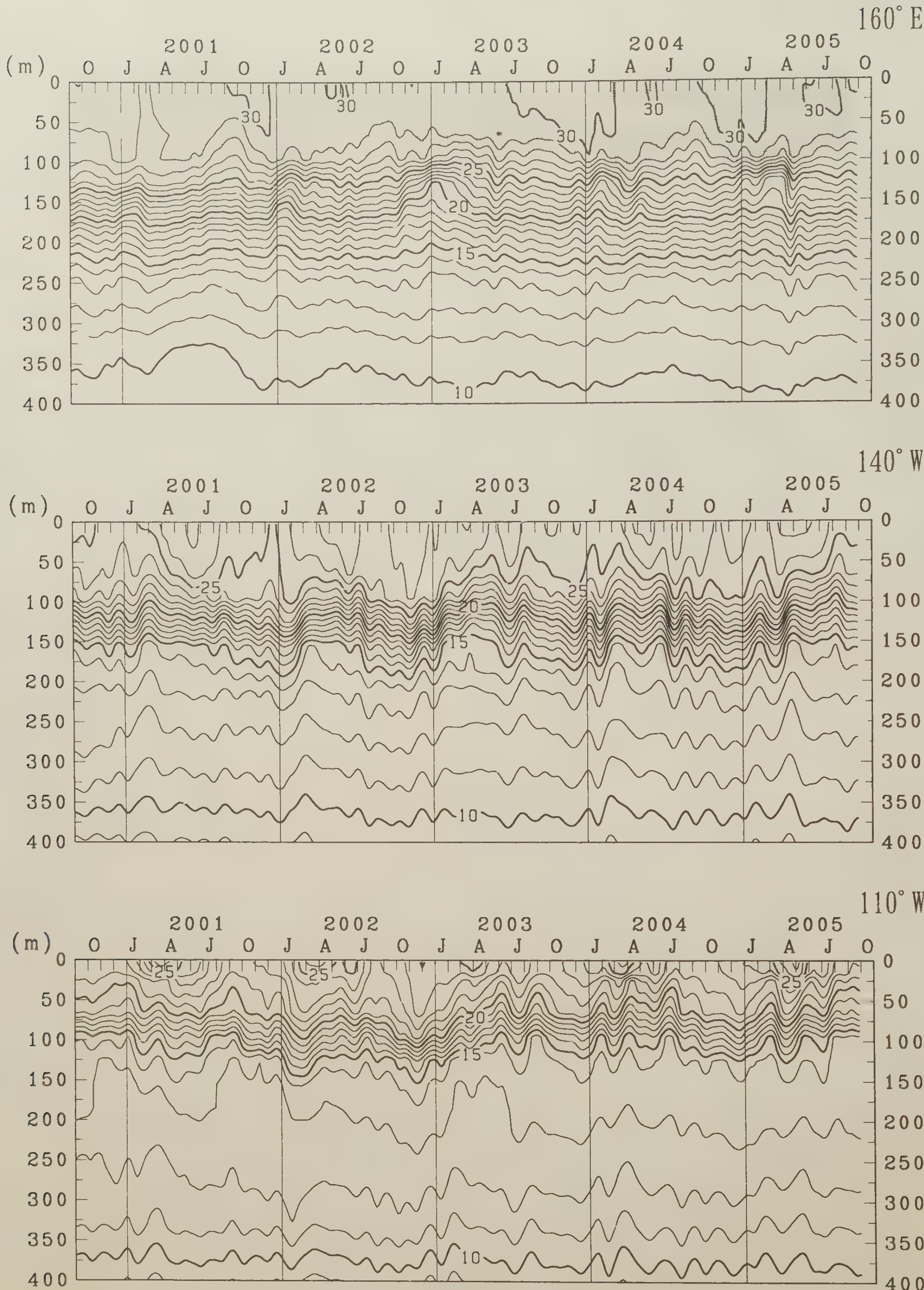
第 27 図　赤道に沿った海面水温（左）および偏差（右）の時間-経度断面図

Fig. 27　Time-longitude sections of SSTs (left) and anomalies (right) along the equator (2 °N-2 °S) in the global ocean. Contour intervals are 1 °C (left) and 0.5 °C (right). Values greater than 28 °C (+0.5 °C) are dark-shaded and values less than 23 °C (-0.5 °C) are light-shaded in the left (right) panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1971-2000 base period means.



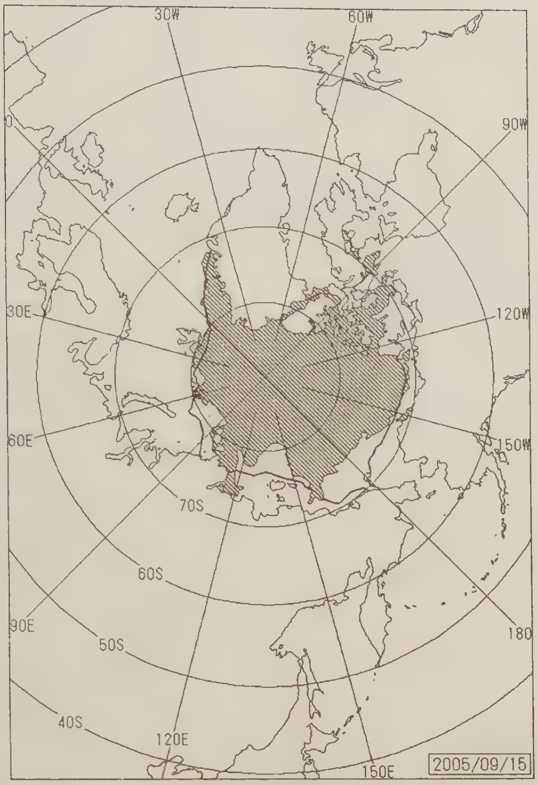
第28図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig. 28 Time-longitude sections of ocean heat content in the upper 260 m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour intervals are 1°C (left) and 0.5°C (right). Values greater than 20°C (+0.5°C) are dark-shaded and values less than 16°C (-0.5°C) are light-shaded in the left (right) panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1987-2004 base period means.



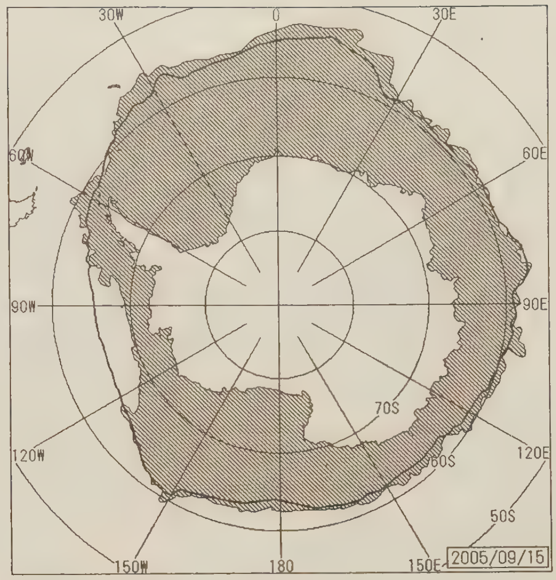
第29図　太平洋赤道域の表層水温の時間－深度断面図
（上：西部、中：中部、下：東部）

Fig. 29 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160°E), the central Pacific (middle, 140°W) and the eastern Pacific (bottom, 110°W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C. Values greater than 28°C are shaded.



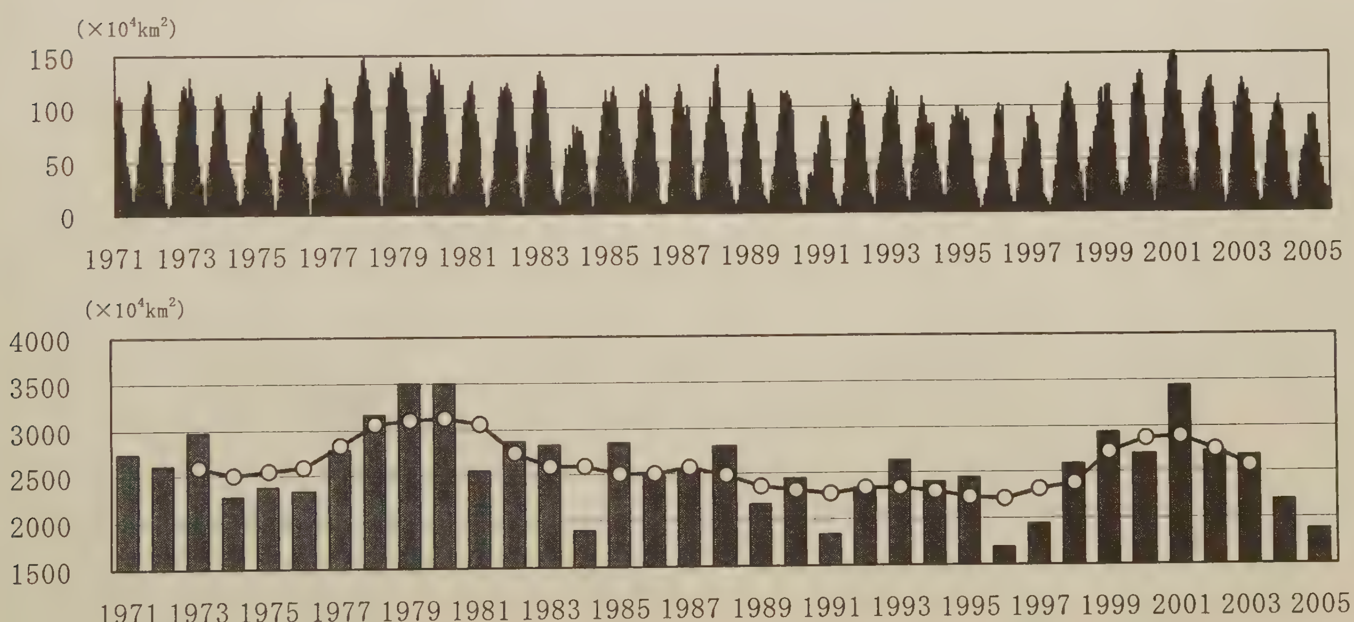
第 30-1 図　北極域の海氷図(2005 年 9 月 15 日)

Fig.30-1 Sea ice chart for the Arctic on 15 Sep. 2005.
The shaded area represents the sea ice extent. The bold line denotes the mean ice edge averaged for the period from 1979 through 2000.
The data source is the National Ice Center (USA).



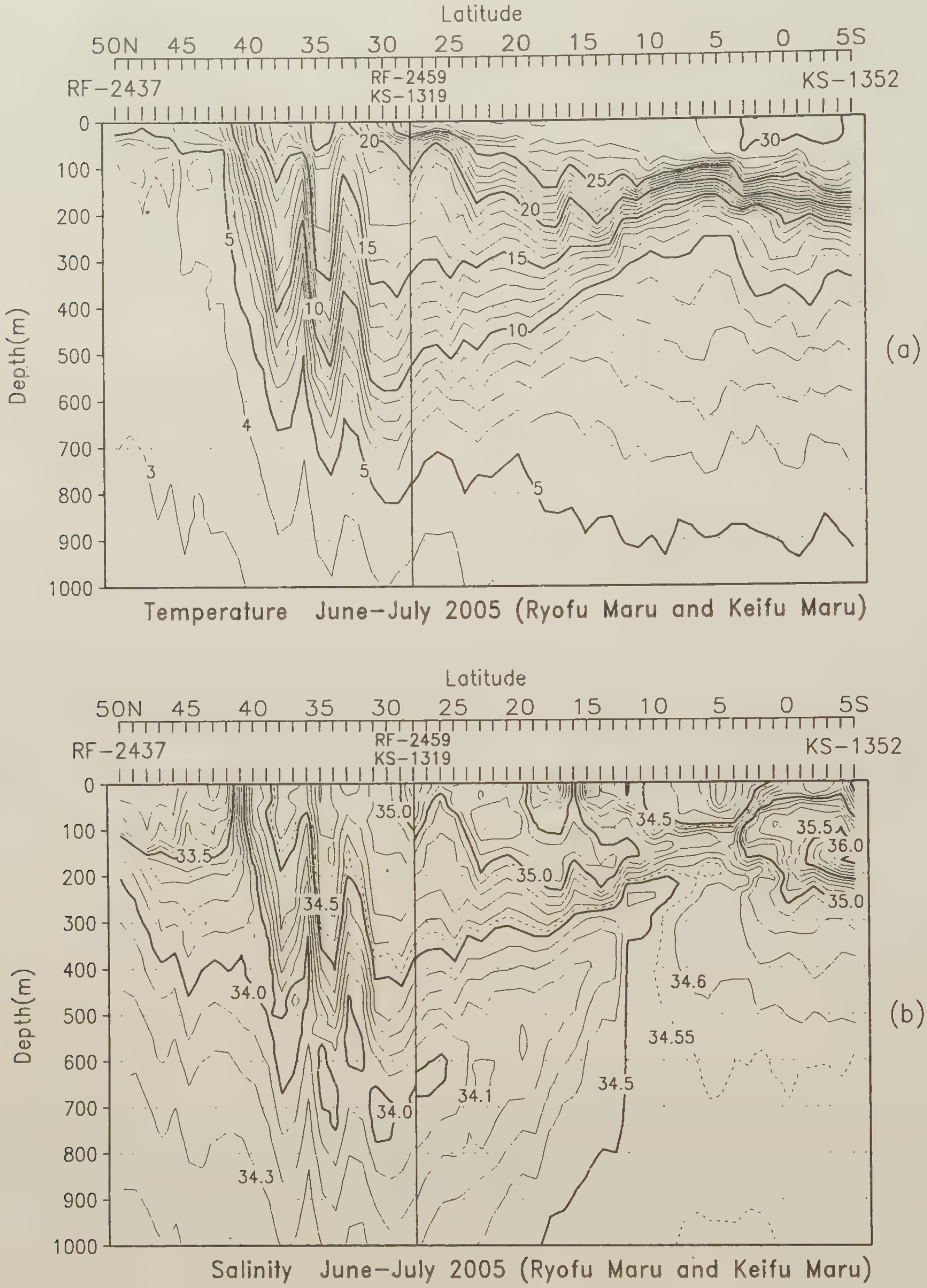
第 30-2 図　南極域の海氷図(2005 年 9 月 15 日)

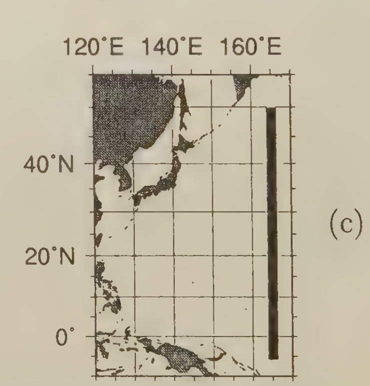
Fig.30-2 Sea ice chart for the Antarctic on 15 Sep. 2005.
The shaded area represents the sea ice extent. The bold line denotes the mean ice edge averaged for the period from 1979 through 2000.
The data source is the National Ice Center (USA).



第 30-3 図　オホーツク海の海氷期の半旬海氷域面積（上段）とその積算（下段）の経年変化
積算の太線は 5 年移動平均を表す

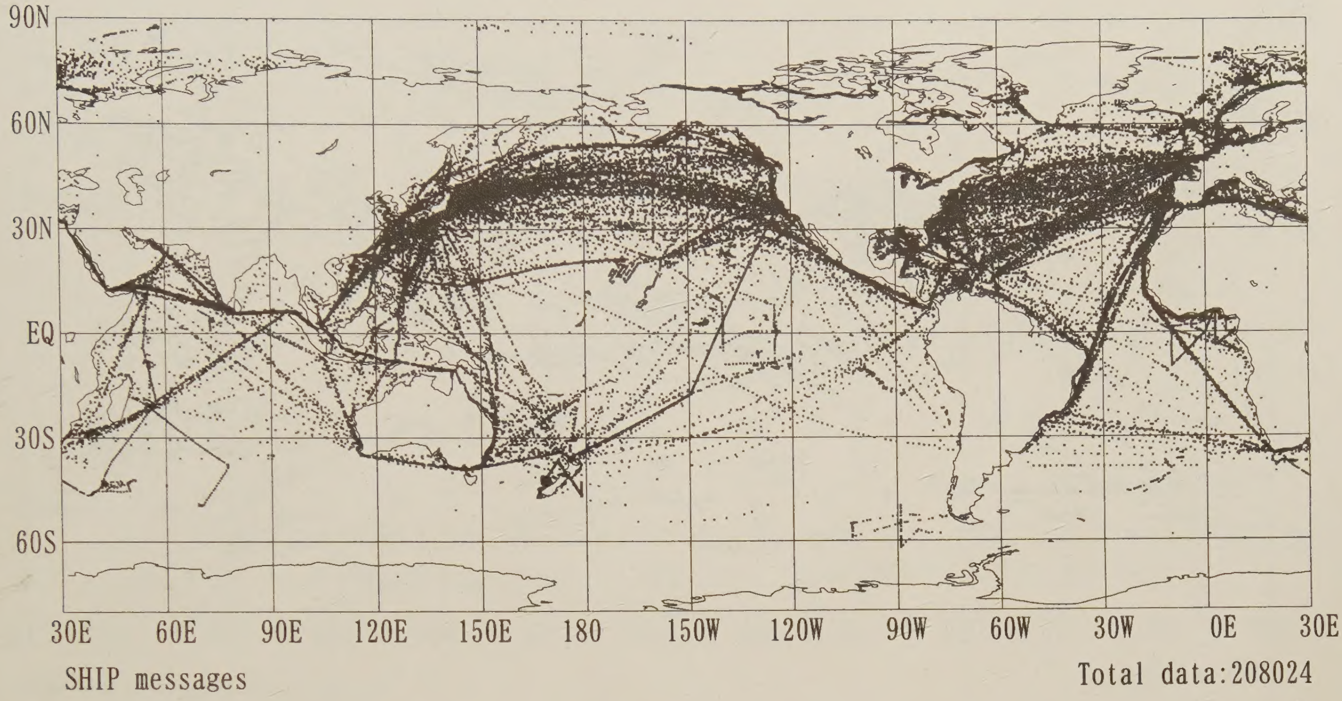
Fig.30-3 Time series of 5-day sea ice extent in the Sea of Okhotsk from December to May (Upper) and its accumulation (lower). The bold line in the lower graph represents 5-year running mean.

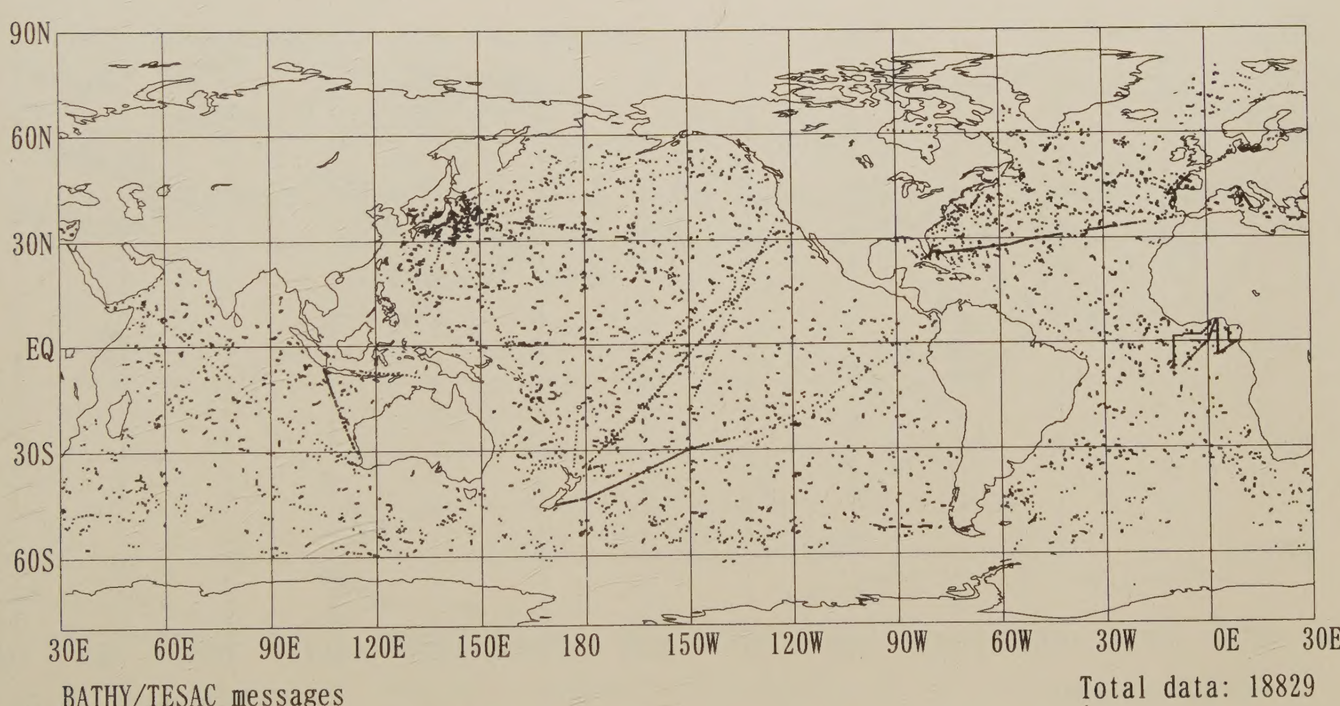




第 31 図 気象庁凌風丸及び神戸海洋気象台啓風丸による東経 165 度に沿った鉛直断面図. (a) 水温 (2005 年 6～7 月), (b) 塩分 (2005 年 6～7 月), (c) 観測位置図.

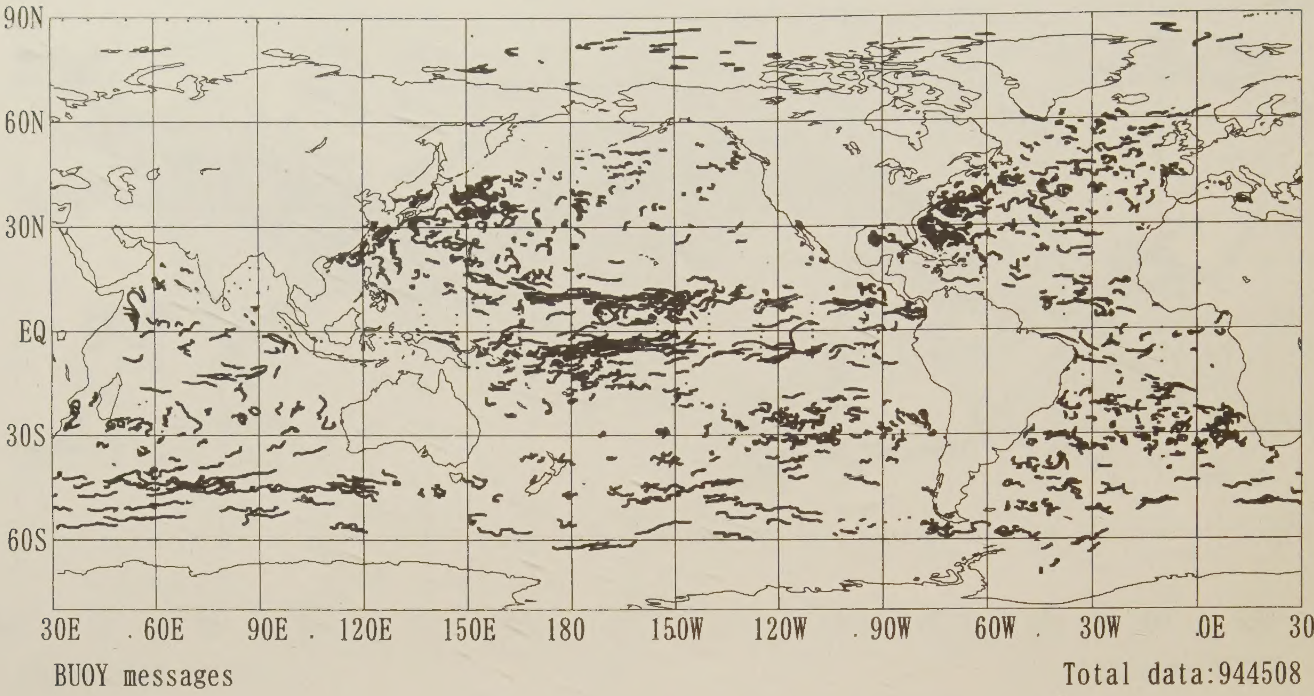
Fig. 31 Vertical sections along 165°E by R/V Ryofu Maru and R/V Keifu Maru. (a) Water temperature observed in June-July 2005, (b) Salinity observed in June-July 2005, (c) Location of observations along 165°E.

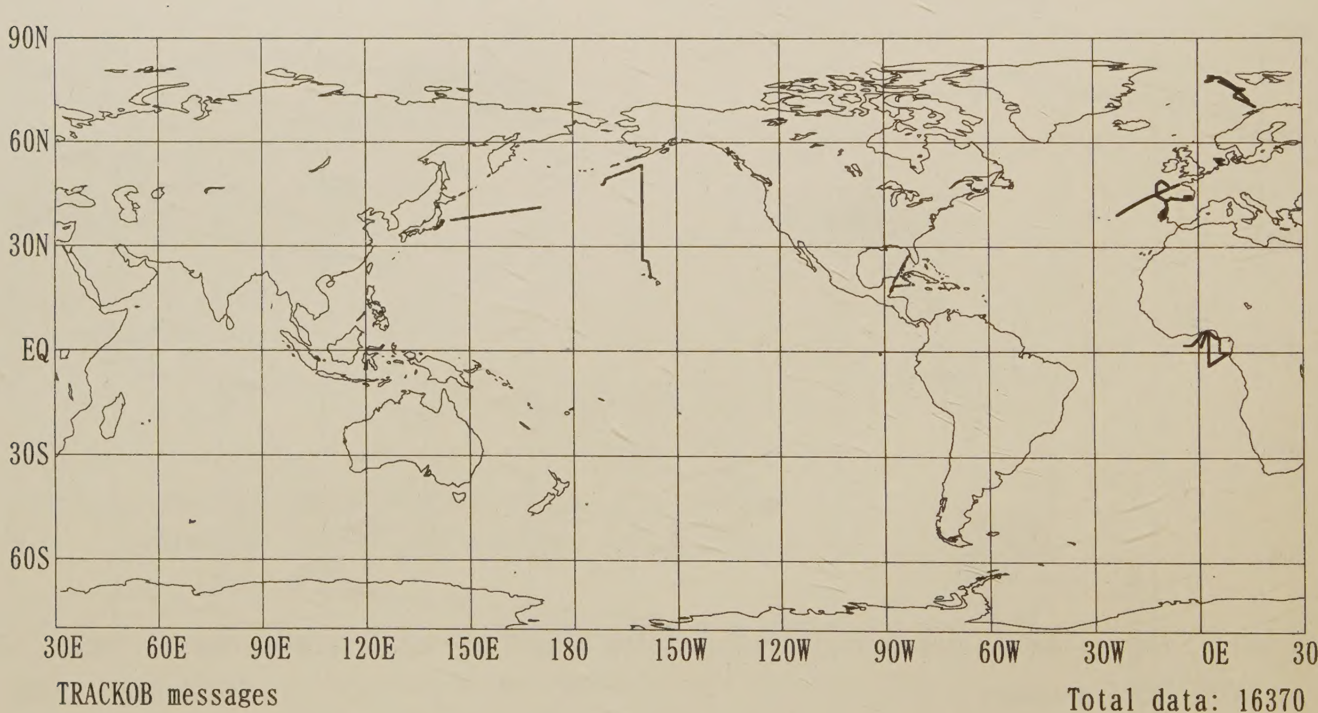




第32-1図　測点分布図(2005年 9月)

Fig. 32-1 Geographical distribution of SHIP messages (top) and BATHY/TESAC messages (bottom) for September 2005.





第32-2図　測点分布図(2005年 9月)

Fig. 32-2　Geographical distribution of BUOY messages (top) and TRACKOB messages (bottom) for September 2005.

気 象 庁 海 洋 月 報

Monthly Ocean Report

September 2005 (No. 153)

謝　辞

本月報掲載の2005年9月のプロダクトには、気象庁が観測したデータ及びGTS（全球気象通信網）を通じて入手した国際気象通報式による通報のほか、下記の機関等から提供していただいたデータを使用しています。

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水産総合研究センター

海洋研究開発機構、宇宙航空研究開発機構

東京大学

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